



# FLORIDA DEPARTMENT OF Environmental Protection

Division of Water Resource Management,  
Phosphate Management Office  
13051 N Telecom Parkway, Suite 101  
Temple Terrace, Florida 33637-0926

**Ron DeSantis**  
Governor

**Jeanette Nuñez**  
Lt. Governor

**Shawn Hamilton**  
Secretary

September 03, 2021

**SENT BY EMAIL TO:**

([Santino.Provenzano@mosaicco.com](mailto:Santino.Provenzano@mosaicco.com))

In the Matter of an  
Application for Permit by:

Mosaic Fertilizer, LLC  
13830 Circa Crossing Drive  
Lithia, Florida, 33547- 3953

**Permit Number: FL0036421**  
File Number FL0036421-022-IW1S/RA  
New Wales Concentrates Plant  
Polk County

Attn: Mr. Santino A. Provenzano  
Director – Environmental

## INTENT TO ISSUE - SUBSTANTIAL REVISION

The Department of Environmental Protection gives notice of its intent to issue a permit revision (copy of conditions attached) for the proposed project as detailed in the application specified above, for the reasons stated below.

The applicant, Mosaic Fertilizer, LLC applied on October 25, 2019, to the Department of Environmental Protection for a permit revision, Permit No. FL0036421 (PA File No. FL0036421-022-IW1S/RA), to Mosaic Fertilizer, LLC.[mailing address:13830 Circa Crossing Dr., Lithia, Florida 33547-3953] for the Mosaic Fertilizer, LLC – New Wales Concentrates Plant (the facility).

This permit revision authorizes an expansion of the facility's lined South phosphogypsum stack (South Gypstack) following extensive subsurface exploration work that was reviewed by the Department, including the State Geologist and other Department engineering and geology professionals, and includes provisions for ground stabilization, enhanced groundwater monitoring, and ongoing subsurface monitoring.

This permit revision will not affect the quality or quantity of surface water discharge from the facility's only active NPDES outfall, Outfall D-006. This permit revision continues the existing surface water monitoring program for this facility.

The facility is located at 3095 County Road 640 W, in Mulberry Florida 33860, in Polk County and geographically at:

Latitude 27° 49' 57.68" N, Longitude 82° 03' 11.26" W

The Department has permitting jurisdiction under Chapter 403, Florida Statutes (F.S.), and applicable rules of the Florida Administrative Code (F.A.C.). The project is not exempt from permitting procedures. The Department has determined that a wastewater permit is required for the proposed work.

Based upon the application and supplemental information, the Department has determined that the applicant has provided reasonable assurance that the above described wastewater project complies with the applicable provisions of Chapter 403, F.S., and Title 62 of the F.A.C.

Under Section 403.815, F.S., and Rule 62-110.106, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Notice of Intent to Issue Permit. The notice must be published one time only within 30 days of receipt of this intent to issue in the legal ad section of a newspaper of general circulation in the area affected. For the purpose of this rule, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. Where there is more than one newspaper of general circulation in the county, the newspaper used should be one with significant circulation in the area that may be affected by the permit. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below.

The applicant must provide proof of publication to the Department's Division of Water Resource Management, Phosphate Management Program, by electronic mail to [DWRMIW.PM@dep.state.fl.us](mailto:DWRMIW.PM@dep.state.fl.us) or by U.S. mail to 13051 N Telecom Pkwy, Suite 101, Temple Terrace, Florida 33637-0926 within two weeks of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit under Rule 62-110.106(11), F.A.C.

## **NOTICE OF RIGHTS**

The Department will issue the permit unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the hearing process may result in a modification of the agency action or even denial of the application.

### **Petition for Administrative Hearing**

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rules 28-106.201 and 28-106.301, F.A.C., a petition for an administrative hearing must contain the following information:



- (a) The name and address of each agency affected and each agency's file or identification number, if known;
- (b) The name, address, any e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency decision;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
- (f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at [Agency\\_Clerk@FloridaDEP.gov](mailto:Agency_Clerk@FloridaDEP.gov). Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

#### Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant and persons entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the notice or within 14 days of receipt of the written notice, whichever occurs first. The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

#### Extension of Time

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time.

Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at [Agency\\_Clerk@FloridaDEP.gov](mailto:Agency_Clerk@FloridaDEP.gov), before the deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation

Mediation is not available in this proceeding.

**EXECUTION AND CLERKING**

Executed in Tallahassee, Florida.

**STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION**



John A. Coates, P.E.  
Mining and Minerals Programs  
Division of Water Resource Management

JAC/vs/apb

**Attachment(s):**

1. Notice of Intent to Issue Permit for newspaper publication
2. Proposed Permit FL0036421 with Figures
3. DMRs
4. Amendment to Fact Sheet

**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy clerk hereby certifies that this document and all attachments were sent on the filing date below to the following listed persons:

**Marjane Taylor**  
Digitally signed by  
Marjane Taylor  
Date: 2021.09.03  
16:39:31 -04'00'

**FILING AND ACKNOWLEDGMENT**

FILED, on this date, pursuant to Section 120.52, F. S., with the designated Department Clerk, receipt of which is hereby acknowledged.

**Marjane Taylor**  
Digitally signed  
by Marjane Taylor  
Date: 2021.09.03  
16:39:46 -04'00'

**Clerk** 3 September 2021  
**Date**

**COPY SENT BY EMAIL TO:**

NPDES Permit Review, USEPA-Region 4/ATL ([r4npdespermits@epa.gov](mailto:r4npdespermits@epa.gov)) [SIC Code - 2874]  
Stephen J. Fleischacker, P.E., Tampa Bay Water ([sfleischacker@tampabaywater.org](mailto:sfleischacker@tampabaywater.org))  
Andrew Greenbaum, Tampa Bay Water ([AGreenbaum@tampabaywater.org](mailto:AGreenbaum@tampabaywater.org))  
Robert McConnell, Tampa Bay Water ([RMcconnell@tampabaywater.org](mailto:RMcconnell@tampabaywater.org))  
Rachael Curran, for People for Protecting Peace River ([Rachael@curranlaw.org](mailto:Rachael@curranlaw.org))  
Brooks Armstrong, People for Protecting Peace River ([pinelilywild@yahoo.com](mailto:pinelilywild@yahoo.com))  
Elise Bennett, Center for Biological Diversity ([center@biologicaldiversity.org](mailto:center@biologicaldiversity.org))  
Andrea Williams, Mosaic ([Andrea.Williams@mosaicco.com](mailto:Andrea.Williams@mosaicco.com))  
Ben Koplin, Mosaic ([Ben.Koplin@mosaicco.com](mailto:Ben.Koplin@mosaicco.com))  
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John Garlanger, Ph.D., P.E., Ardaman ([JGarlanger@ardaman.com](mailto:JGarlanger@ardaman.com))  
John M. Bohde, Polk County ([JohnBohde@polk-county.net](mailto:JohnBohde@polk-county.net))  
Vishwas S. Sathe, P.E., FDEP ([Vishwas.Sathe@floridadep.gov](mailto:Vishwas.Sathe@floridadep.gov))  
John A. Coates, P.E., FDEP-IW/TLH ([John.Coates@floridadep.gov](mailto:John.Coates@floridadep.gov))  
Amaury P. Betancourt, Ph.D., P.E., FDEP ([Amaury.Betancourt@floridadep.gov](mailto:Amaury.Betancourt@floridadep.gov))  
Andre Mele ([andymele@mac.com](mailto:andymele@mac.com))

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
NOTICE OF INTENT TO ISSUE PERMIT

The Department of Environmental Protection gives notice of its intent to issue a permit revision Permit No. FL0036421 (PA File No. FL0036421-022-IW1S/RA), to Mosaic Fertilizer, LLC [mailing address: 13830 Circa Crossing Dr., Lithia, Florida 33547-3953] for the Mosaic Fertilizer, LLC – New Wales Concentrates Plant (the facility). This permit revision authorizes an expansion of the facility's lined South phosphogypsum stack (South Gypstack) following extensive subsurface exploration work that was reviewed by the Department, including the State Geologist and other Department engineering and geology professionals, and includes provisions for ground stabilization, enhanced groundwater monitoring, and ongoing subsurface monitoring. This permit revision will not affect the quality or quantity of surface water discharge from the facility's only active NPDES outfall, Outfall D-006. This permit revision continues the existing surface water monitoring program for this facility.

The facility is located at 3095 County Road 640 W, in Mulberry Florida 33860, in Polk County and geographically at:

Latitude 27° 49' 57.68" N Longitude 82° 03' 11.26" W

The Department has assigned permit file number FL0036421-022-IW1S/RA to the proposed project.

The intent to issue and application file are available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the Department's Division of Water Resource Management, Phosphate Management Program, 13051 N Telecom Parkway, Suite 101, Temple Terrace, Florida 33637-0926, at phone number (813) 470-5913.

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- (b) The name, address, any e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the Department's agency decision;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
- (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
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**MOSAIC FERTILIZER, LLC**

New Wales Concentrates Plant

Public Notice of Intent to Issue

**Permit Number: FL0036421 (Major)**

PA File Number: FL0036421-022-IW1S/RA

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filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation

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# FLORIDA DEPARTMENT OF Environmental Protection

Division of Water Resource Management  
Phosphate Management Program  
13051 N. Telecom Pkwy, Suite 101  
Temple Terrace, FL 33637

**Ron DeSantis**  
Governor

**Jeanette Nuñez**  
Lt. Governor

**Shawn Hamilton**  
Secretary

## STATE OF FLORIDA INDUSTRIAL WASTEWATER FACILITY PERMIT

**PERMITTEE:**  
Mosaic Fertilizer, LLC

**PERMIT NUMBER:** FL0036421 (Major)  
**FILE NUMBER:** FL0036421-022-IW1S/RA  
**EFFECTIVE DATE:** July 31, 2018  
**REVISION DATE:** **PROPOSED**  
**EXPIRATION DATE:** July 30, 2023

**RESPONSIBLE OFFICIAL:**  
Mr. Santino Provenzano  
Director, Environmental  
13830 Circa Crossing Dr.  
Lithia, Florida 33547  
(813) 500-6853  
[Santino.Provenzano@mosaicco.com](mailto:Santino.Provenzano@mosaicco.com)

### **FACILITY:**

Mosaic Fertilizer, LLC - New Wales Concentrates Plant  
3095 County Road 640 W  
Mulberry, FL 33860-8875  
Polk County

Latitude: 27° 49' 57.68" N

Longitude: 82° 03' 11.26" W

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and applicable rules of the Florida Administrative Code (F.A.C.) and constitutes authorization to discharge to waters of the state under the National Pollutant Discharge Elimination System (NPDES). This permit became effective July 31, 2018, and expires July 30, 2023, and was revised on December 13, 2018, January 22, 2019, and September 13, 2019. This permit does not constitute authorization to discharge wastewater other than as expressly stated in this permit. The above named permittee is hereby authorized to operate the facilities in accordance with the documents attached hereto and specifically described as follows:

### **FACILITY DESCRIPTION:**

The Mosaic Fertilizer, LLC (Mosaic) New Wales Concentrates Plant (also referred to as New Wales Facility, New Wales Plant, or New Wales) manufactures ammoniated phosphate fertilizers (MAP and DAP) and animal feed ingredients. The New Wales Plant produces phosphoric acid and sulfuric acid as part of the manufacturing process, but consumes most of the acid internally during the manufacture of the fertilizer and animal feed ingredients products. Ancillary operations include a prilled sulfur melting process, molten sulfur storage and processing, storage tanks, phosphoric acid clarification areas, storage warehouses, and other activities in support of fertilizer manufacture. Phosphogypsum produced as a waste by-product of the phosphoric acid production, is stored at the facility by placing the phosphogypsum in a

**PERMITTEE:** Mosaic Fertilizer, LLC  
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Mulberry, FL 33860

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lined 704-acre phosphogypsum storage area (gypstack, or stack), located immediately south of the main cooling pond. The active phosphogypsum stack system consists of 60-mil High Density Polyethylene (HDPE) lined, Phase I (394 acres) and Phase II (310 acres) stack expansions, comprising a combined 704-acre lined South Phosphogypsum Stack. The active system also includes a 280-acre unlined cooling pond system, a 94-acre below-grade unlined Auxiliary Holding Pond (AHP) located west of the main cooling pond, and two lined AHPs identified as LESP1 & LESP2 totaling 70 acres on top of the unlined, closed North Phosphogypsum Stack. The lined AHPs are also known as lined emergency storage ponds "LESP". The closure related activities associated with the North Phosphogypsum Stack are authorized under a separate permit (FL0178527). The facility has four soil-bentonite cut-off wall sections identified as the North Cooling Pond Dike Cut-Off Wall, the Plant Cut-Off Wall, the AHP Cut-Off Wall Extension, and the Expansion Area Cut-Off Wall, to contain potential process water impacts from components of the stack system that are unlined (**Attachment D**).

The west compartment of the Phase II stack expansion was modified following the discovery of a sinkhole feature in 2016, and the subsequent completion of its remediation as acknowledged by the Department in its letter dated March 6, 2018. The modified Phase II West compartment includes an exclusion zone to establish a buffer area surrounding the remediated sinkhole feature which will continue to be monitored to document the continued effectiveness of the remediation. The areas north and south of the exclusion zone were modified as approved by the Department for continued storage of gypsum and reactivated. These areas are identified as the Phase II West – South and the Phase II West – North compartments. A 19-acre lined AHP previously identified as LESP3 and located on the northwest area on top of the Phase I expansion, is no longer used as an AHP and has been incorporated into the Phase II West – North reactivated compartment. The sinkhole remedial actions to address the release of process water, reestablish the integrity of the underlying compromised confining unit, as well as modifications of the west compartment as discussed above, were authorized under the provisions of Consent Order OGC File No. 16-1536, executed on October 24, 2016.

A new 60-mil HDPE-lined Phase III (231-acre) stack expansion is authorized under PA File No. FL0036421-022-IW1S/RA, and will be divided into two sections: Phase III East and Phase III West (**Attachment H** and **Attachment J**). The Phase III East section will be built first followed by the Phase III West section. Activation of each section is subject to Department oversight and approval of activities identified in the compliance schedules section of this permit. The proposed Phase III stack expansion area meets the stack expansion design requirements of Chapter 62-673, F.A.C., and was subject to extensive subsurface explorations that have been reviewed by the Department, including the State Geologist and other Department engineering and geology professionals. Prior to placing a section of the stack expansion area into operation this permit requires ground improvements be successfully completed and approved for that section by the Department, in consultation with the State Geologist and other Department engineering and geology professionals, to ensure each section is suitable for the proposed Phase III stack expansion. The proposed expansion also provides additional safeguards including a 3-tiered monitoring system for early detection of subsurface activity. The 3-tiered monitoring system is referred to herein as the Subsurface Activity Early Detection System (SAEDS). This 3-tiered SAEDS is summarized below consists of the following features:

1. A vibrating wire piezometer grid system underlying the entire expansion area, equipped with sensors, located in a grid spacing varying from approximately 150 to 250 feet apart, as depicted in **Attachment L**, for monitoring changes in the potentiometric surface or water elevation in the foundation drainage system.
2. A foundation drainage system installed above the vibrating wire piezometer grid system and beneath the composite liner, blankets the entire expansion area, to relieve the loading pressure of

**PERMITTEE:** Mosaic Fertilizer, LLC  
New Wales Concentrates Plant  
3095 State Road 640 W.  
Mulberry, FL 33860

**PERMIT NUMBER:** FL0036421 (Major)  
**PA FILE NO.** FL0036421-022-IW1S/RA

and control the water level within the surficial soils underlying the stack expansion area. In addition, it also includes an east-west interceptor drain to create a hydraulic separation of the shallow aquifer under the existing Phase II area and the Phase III expansion area. The drainage water quality of both will be monitored to detect whether there are any changes and identify actions, as appropriate.

3. A passive seismic monitoring system consisting of an active network of geophones installed around the perimeter of the entire expansion area and at different depths below the ground surface. The passive seismic monitoring locations surround the entirety of the expansion area as well as the existing Phase I & II areas, to provide an early detection system to identify subsurface activity by passive, long-term monitoring of geophone data to identify a pattern of concern and also by analyzing data generated from active, planned events.
4. Tomographic mapping of subsurface conditions, using the passive seismic monitoring system, will also be required to monitor for changes in subsurface conditions.

#### **Process Water Input from Other Facilities to New Wales:**

- **Truck Transfer** - This permittee is authorized to receive untreated raw process water via truck from the Mosaic Green Bay (FL0000752) and Plant City (FL0000078) facilities.
- **Pipeline Transfer** - This permittee is authorized to receive lime-treated process water and untreated raw process water, which may include recovered seepage process water, from Mosaic's Nichols facility (FL0030139) to Mosaic's New Wales facility via an existing double-walled high density polyethylene (HDPE) pipeline. The treated wastewater transferred may be either single or double-lined process water depending on the operational parameters of the two facilities at the time. Untreated process water from the Nichols Facility will discharge into the New Wales process water system and treated process water will be reused within the plant.
- **Other** - Process water transfers to or from the New Wales facility that are not specifically identified above, can only be initiated following receipt of Department approval.

#### **Stormwater Input from the Former Kingsford Mine**

This permit authorizes the transfer of water from abandoned Clay Settling Area (CSA) K-7 of the former Kingsford Mine into the New Wales Outfall D-006 discharge system (**Attachment A**). Reclamation and release of this CSA has been completed, and water from a portion (~349 acres) of the released land will continue to flow to the Marina and be discharged through outfall D-006.

#### **WASTEWATER TREATMENT:**

The process wastewater (also referred to as process water) used in the chemical and fertilizer manufacturing process is cooled as it is circulated in the unlined Cooling Pond System with an average ponded surface area on the order of 280 acres. The Phase I and Phase II 60-acre lined perimeter water return ditch system is connected to the cooling pond system via the east and west flume structures, located south of the main cooling pond.

The unlined cooling pond system includes a 247-acre main cooling pond located southeast of the chemical plant and a 33-acre cooling channel that encircles the base of the existing unlined North Phosphogypsum Stack located immediately to the east of the chemical plant. Operation of this system is described as follows: hot process water from the plant operations is discharged into the west channel and flows south into the main cooling pond. Process water contained in the gypsum slurry is transported to the lined South Phosphogypsum Stack (Phases I and II), located south of the cooling pond and returned into the cooling

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New Wales Concentrates Plant  
3095 State Road 640 W.  
Mulberry, FL 33860

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pond via the east and west flumes, located on the south wall of the cooling pond. The combined flow is then directed into the east-cooling channel and is returned to the plant to be reused in the process.

In addition to the 280-acre cooling area, the cooling pond system also includes a 94-acre below-grade unlined Auxiliary Holding Pond (AHP) located at the west end of the main cooling pond. The AHP provides additional storage and is capable of containing a rainfall event exceeding the 100-year, 24-hour storm.

The process water cooling pond recirculation system also receives treated effluent from a 25,000 GPD domestic waste package treatment plant and wastewater generated from a locomotive wash and vehicle wash stations, and wastes from a railroad car wash station. The wash stations are used to clean vehicles prior to routine maintenance. The railroad car wash station is used to wash railcars prior to these cars being loaded with bulk fertilizer materials. All wastewater contained within the process water cooling pond recirculation system shall be considered Industrial Wastewater under this permit. The New Wales process water cooling pond system is designed for zero discharge and in the event of extreme rainfall events may discharge after treatment to the D-006 discharge system. Treatment of process water, when necessary to maintain the required surge capacity in accordance with Rule 62-672, F.A.C., consists of liming, reverse osmosis (RO), settling and pH adjustment.

The permittee is also authorized to construct a process water transfer station at this facility, and to transfer process water to the Green Bay (FL0000752) facility, upon receipt of written Departmental authorization prior to the commencement of such transfers.

The D-006 discharge system is as shown on **Attachment A**. Outfall D-006 receives flows from the New Wales facility by means of using two separate CSAs, A-11 and K-4, which are separated by several miles of ditch systems. The clay settling areas and flow path allow for additional settling of solids and nutrient uptake before reaching the outfall. Specific discharges from the New Wales facility flow into CSA A-11, where the water is either siphoned out via siphon lines or decanted from a spillway located on the southeast corner of A-11, and then into a 27-ac pond known as the Marina. The water then flows through a series of ditches over an approximate path length of 20,000 feet, prior to flowing into the northwestern corner of CSA K-4. CSA K-4 eventually discharges through a two-culvert spillway on the southeast side of K-4 that then flows through a series of ditches over an approximate path length of 7,000 feet, and then into the D-006 Pond, which then discharges through Outfall D-006.

Outfall D-006 is authorized to use an auxiliary portable pH adjustment system as needed to control pH at the outfall. Operation and reporting requirements for this treatment system are referenced in Condition V.A.5. of this permit. Additional treatment may include aeration, pH reduction by CO<sub>2</sub> addition and H<sub>2</sub>SO<sub>4</sub> acidification, turbidity reduction by addition of flocculent and blocks, algae bloom inhibition by application of algal growth blocking dye, aluminum sulfate (alum) treatment for nutrient and turbidity reduction, and freshwater blending.

#### **EFFLUENT DISPOSAL:**

**Surface Water Discharge:** The permittee is allowed to discharge treated process wastewater (also referred to as process water or seepage water), contaminated non-process wastewater including excess groundwater from production and recovery wells, and stormwater from the following outfall as indicated. The referenced process wastewater and contaminated non-process wastewater for phosphate fertilizer manufacturing are defined in 40 CFR 418.11(b) and 418.11(c), respectively, and phosphate mining process generated wastewater is defined in 40 CFR 436.181(e). Treated process wastewater, as described in this permit, is authorized for discharge to waters of the State from the following outfall.

**PERMITTEE:** Mosaic Fertilizer, LLC  
New Wales Concentrates Plant  
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Existing Outfall D-006 discharges treated process wastewater, contaminated non-process wastewater including excess groundwater from production and recovery wells, and stormwater directly to South Prong Alafia River, Class III Fresh Waters within WBID# 1673. The South Prong of the Alafia River is a tributary of the Alafia River, a Class III Fresh Water body. Outfall D-006 consists of three spillway structures, each with fourteen 27-inch bays with wooden weir boards. The weir invert is 115 feet NGVD. Each spillway structure, while located within WBID 1698A, discharges directly into WBID# 1673, through an approximately 160-foot long, 60-inch diameter corrugated metal pipe with an invert elevation in the structures of 112.0 feet NGVD. The receiving water elevation is about 105 feet NGVD.

Internal Outfall I-006 is located within the facility's NPDES treatment/conveyance system, downstream of CSA A-11 and a pond known as the Marina, upstream of Outfall D-006.

The D-006 outfall spillway structure and I-006 are located as follows (**Table 1**):

**TABLE 1**

OUTFALL NO.	LATITUDE	LONGITUDE	INVERT ELEVATION	SAMPLE POINT	CLASS
D-006	27° 45' 53.2806" N	82° 00' 11.5581" W	115 feet NGVD	EFF-006	III Fresh Waters
I-006	27° 48' 58.3696" N	82° 00' 59.9008" W	NA	OUI-006	NA

**Ground Water Discharge:** The facility has a potential for ground water discharges from the lined phosphogypsum stack, unlined process-water cooling pond system, and the unlined Auxiliary Holding Pond (AHP). A Ground Water Monitoring Plan (GWMP) has been approved for the site to monitor such discharges. Consent Order 16-1356 has been executed to address required remedial activities associated with the release of process water resulting from the 2016 sinkhole in the west cell of the Phase II lined stack system.

**IN ACCORDANCE WITH:** The limitations, monitoring requirements and other conditions set forth in this Cover Sheet and Part I through Part X on pages 1 through 68 of this permit.

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## I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

### A. Surface Water Discharges

- During the period beginning on the effective date and lasting through the expiration date of this permit, the permittee is authorized to discharge to surface water as described under the Effluent Disposal section, above, from Outfall D-006 to South Prong Alafia River. Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.E.3.:

**TABLE 2**

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow	MGD	Max Max	Report Report	Monthly Average Daily Maximum	Continuous	Recorder	EFF-006	
Stream Flow	MGD	Max	Report	Daily Maximum	Monthly, when discharging	Instantaneous Sample	SWB-006, SWD-006	
Temperature (C), Water	Deg C	Max	Report	Daily Maximum	Weekly	Grab	EFF-006	See I.A.5
Temperature (C), Water (in-stream)	Deg C	Max	Report	Daily Maximum	Monthly, when discharging	Grab	SWB-006, SWD-006	
pH	s.u.	Min Max	6.0 8.5	Daily Minimum Daily Maximum	Weekly	Grab	EFF-006	See I.A.5
pH (in-stream)	s.u.	Max	Report	Daily Maximum	Monthly, when discharging	Grab	SWB-006, SWD-006	
Specific Conductance	umhos/ cm	Max	See Note	Daily Maximum	Weekly	Grab	EFF-006	See I.A.10
Specific Conductance (background)	umhos/ cm	Max	Report	Daily Maximum	Weekly, when discharging	Grab	SWB-006	See I.A.10
Specific Conductance (downstream)	umhos/ cm	Max	Report	Daily Maximum	Monthly, when discharging	Grab	SWD-006	See I.A.10



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			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Oxygen, Dissolved Percent Saturation	percent	Min	38	Daily Minimum	Monthly	Grab	EFF-006	
Oxygen, Dissolved Percent Saturation (in- stream)	percent	Min	Report	Daily Minimum	Monthly, when discharging	Grab	SWB-006, SWD-006	
Turbidity	NTU	Max	See Note	Maximum	Weekly	Grab	EFF-006	See I.A.9
Turbidity (background)	NTU	Max	Report	Daily Maximum	Weekly, when discharging	Grab	SWB-006	See I.A.9
Turbidity	NTU	Max	Report	Monthly Average	Monthly	Calculated	EFF-006	
Turbidity (downstream)	NTU	Max	Report	Daily Maximum	Monthly, when discharging	Grab	SWD-006	See I.A.9
Solids, Total Suspended	mg/L	Max Max	30 60	30 Day Average Daily Maximum	Weekly	Grab	EFF-006	See I.A.4
Solids, Fixed	mg/L	Max Max	12* 25*	30 Day Average Daily Maximum	Weekly	Grab	EFF-006	See I.A.4
Phosphorus, Total (as P)	mg/L	Max Max	3.0** 5.0**	30 Day Average Daily Maximum	Weekly	Grab	EFF-006	See I.A.4
Phosphorus, Total (as P)	lb/day	Max Max	Report Report	Monthly Average Daily Maximum	Monthly	Calculated	EFF-006	See I.A.12, I.A.14, & I.A.15
Phosphorus, Total (as P)	lb/yr	Max	Report	Annual Total	Annually	Calculated	EFF-006	See I.A.12, I.A.14, & I.A.15
Phosphorus, Total (as P)	lb/yr	Max	Report	5 Year Average	Annually	Calculated	EFF-006	See I.A.12, I.A.14, & I.A.15
Phosphorus, Total (as P) (upstream)	mg/L	Max	Report	Daily Maximum	Monthly, when discharging	Grab	SWB-006	

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Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Phosphorus, Total (as P) (downstream)	mg/L	Max	Report	Daily Maximum	Monthly, when discharging	Grab	SWD-006	
Phosphate, Ortho (as P)	mg/L	Max Max	Report Report	Monthly Average Daily Maximum	Weekly	Grab	EFF-006	
Nitrogen, Total	mg/L	Max Max	Report Report	Monthly Average Daily Maximum	Weekly	Grab	EFF-006	
Nitrogen, Total	lb/day	Max Max	Report Report	Monthly Average Daily Maximum	Monthly	Calculated	EFF-006	See I.A.12, I.A.13, & I.A.15
Nitrogen, Total	lb/yr	Max	Report	Annual Total	Annually	Calculated	EFF-006	See I.A.12, I.A.13, & I.A.15
Nitrogen, Total (upstream)	mg/L	Max	Report	Daily Maximum	Monthly, when discharging	Grab	SWB-006	
Nitrogen, Total (downstream)	mg/L	Max	Report	Daily Maximum	Monthly, when discharging	Grab	SWD-006	
Nitrogen, Ammonia, Total (as N) (effluent)	mg/L	Max	Report	30 Day Average	Weekly	Grab	EFF-006	See I.A.5
Nitrogen, Ammonia, Total (as N) (calculated limit)	mg/L	Max	Report	30 Day Average	Weekly	Calculated	EFF-006	See I.A. 5
Nitrogen, Ammonia, Total (as N) (effluent minus limit)	mg/L	Max	0.00 <sup>†</sup>	30 Day Average	Weekly	Calculated	EFF-006	See I.A.5
Nitrogen, Ammonia, Total (as N) (effluent/limit ratio)	ratio	Max	2.5 <sup>††</sup>	Maximum	Monthly	Calculated	EFF-006	See I.A.5
Chlorophyll <i>a</i>	ug/L	Max	Report	Daily Maximum	Monthly	Grab	EFF-006	

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			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Chlorophyll <i>a</i> (upstream)	ug/L	Max	Report	Daily Maximum	Monthly	Grab	SWB-006	
Chlorophyll <i>a</i> (downstream Bio site 1)	ug/L	Max	Report	Daily Maximum	Monthly	Grab	SWD-6Bio1	
Chlorophyll <i>a</i> (downstream Bio site 1)	ug/L	Max	Report	Annual Geometric Mean	Annually	Calculated	SWD-6Bio1	
Fluoride	mg/L	Max	10.0	Daily Maximum	Monthly	Grab	EFF-006	
Sulfate	mg/L	Max	Report	Daily Maximum	Monthly	Grab	EFF-006	
Alpha, Gross Particle Activity	pCi/L	Max	15	Daily Maximum	Monthly	Grab	EFF-006	See I.A.11
Radium 226 + Radium 228, Total	pCi/L	Max	5	Daily Maximum	Monthly	Grab	EFF-006	See I.A.11
Chronic Whole Effluent Toxicity, 7-Day IC25 (Ceriodaphnia dubia)	percent	Min	100	Single Sample	Semi-Annually; twice per year	24-hr TPC	EFF-006	See I.A.18
Chronic Whole Effluent Toxicity, 7-Day IC25 (Pimephales promelas)	percent	Min	100	Single Sample	Semi-Annually; twice per year	24-hr TPC	EFF-006	See I.A.18

- \* Fixed Suspended Solids shall be limited in accordance with the requirements of Rule 62-671.300(1), F.A.C. To correct for losses during the testing and analysis, the analytic results from the above specified tests for non-filterable, non-volatile residue (fixed suspended solids) shall be multiplied by a factor of 1.1 to be reported as total non-volatile, non-filterable residue as defined in Rule 62-671.300(2), F.A.C.
- \*\* Total phosphorus shall be for monitoring and reporting only, except: if monitoring data shows total phosphorus levels exceed 3.0 mg/L monthly average for more than one 30-day period per calendar year, the permittee, upon written notification by the Department, shall prepare and file within 120 days (unless the time is extended by the Department) a study consisting of the following:

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- (1) a chronology of at least one year's discharge data;
- (2) an assessment of the cause and origin of the phosphorus constituent of the discharge;
- (3) description of the discharger's current maintenance operation and management practices directly related to the control of phosphorus;
- (4) an evaluation of the environmental significance of the phosphorus levels; and
- (5) an identity of reasonable methods to abate, to the extent practicable, the influx of phosphorus into the discharge.

Upon receipt of the report, the Department shall require the applicant to publish a public notice in a newspaper of general circulation in the affected area, which states that the report was received and where it is available for public inspection. The Department shall evaluate the report and may amend the discharger's permit to reflect additional requirements (subject to administrative and judicial review), including the implementation of cost-effective management practices or technological advances which reduce or eliminate the phosphorus in the discharge to the maximum extent practicable. *[Rule 62-671.300(1), F.A. C.]*

- † The monthly average effluent value shall be recorded on the DMR in the first parameter row for TAN, which is labeled "Nitrogen, total ammonia (as N) (effluent)" on the DMR attached to this permit. The calculated monthly average limitation shall be recorded on the DMR in the second parameter row for TAN, which is labeled "Nitrogen, total ammonia (as N) (calculated limit)" on the attached DMR. Compliance with the effluent limitation is determined by calculating the difference between the monthly average effluent value and the calculated limit. The compliance value shall be recorded on the DMR in the third parameter row for TAN, which is labeled "Nitrogen, total ammonia (as N) (effluent minus calculated limit)" on the attached DMR. The compliance value shall not exceed 0.00.
- †† To determine compliance with the single sample effluent limitation, divide each TAN effluent sample value by the calculated TAN criterion value for that sample (calculated using the equation above) and compare to 2.5. On the DMR, report the greatest ratio of effluent sample value to TAN criterion value calculated for that sample. The compliance value shall not exceed 2.5.

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2. During the period beginning on the effective date and lasting through the expiration date of this permit, the permittee shall monitor Internal Outfall I-006, located within the facility's NPDES treatment/conveyance system, as specified below, and report in accordance with Permit Condition I.E.3.:

**TABLE 3**

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
pH	s.u.	Min Max	Report Report	Daily Minimum Daily Maximum	Weekly	Grab	OUI-006	See VI.8
Nitrogen, Total	mg/L	Max Max	Report Report	Monthly Average Daily Maximum	Weekly	Grab	OUI-006	See VI.8
Phosphorus, Total (as P)	mg/L	Max Max	Report Report	Monthly Average Daily Maximum	Weekly	Grab	OUI-006	See VI.8
Specific Conductance	umhos/ cm	Max	Report	Monthly Average Daily Maximum	Weekly	Grab	OUI-006	See VI.8

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3. Effluent and in-stream samples shall be taken at the monitoring site locations listed in Permit Conditions I.A.1. and I.A.2. and as described below:

**TABLE 4**

Monitoring Site Number	Latitude	Longitude	Description of Monitoring Site
OUI-006	27° 48' 58.3696" N	82° 00' 59.9008" W	Internal Outfall I-006
SWB-006	27° 46' 01.5745" N	81° 59' 28.3234" W	Background In-stream Monitoring Site
EFF-006	27° 45' 53.2806" N	82° 00' 11.5581" W	Outfall D-006
SWD-6Bio1	27° 45' 48.2400" N	82° 00' 14.7600" W	Downstream Monitoring Site
SWD-006	27° 45' 19.1263" N	82° 00' 06.0337" W	Downstream In-stream Monitoring Site

4. For the purposes of Total Phosphorus, Total Suspended Solids, and Fixed Suspended Solids, the "30-Day Average" means the flow-weighted arithmetic mean of all the measured pollutant values obtained during any calendar month and analyzed in accordance with this rule. However, if during any calendar month there are three or less measured pollutant values, then the average shall be computed using the most recent four values. [Rule 62-671.200(10), F.A.C.]
5. Effluent shall be monitored for pH and temperature at the same time and location as total ammonia nitrogen (TAN). The 30-day average TAN value shall not exceed the average of the values calculated from the following equation, with no single value exceeding 2.5 times the value from the equation:

*Calculated TAN Criterion Value for a Collected Sample =*

$$0.8876 \left( \frac{0.0278}{1 + 10^{7.688 - pH}} + \frac{1.1994}{1 + 10^{pH - 7.688}} \right) \times (2.126 \times 10^{0.028 \times (20 - \text{MAX}(T, 7))})$$

where:

- T and pH are the paired temperature (in degrees Celsius) and pH associated with the effluent TAN sample, i.e., measured at the same time and location as the effluent TAN sample is collected.
- For purposes of TAN criterion calculations, pH is subject to the range of 6.5 to 9.0. In the TAN criterion equation, the pH shall be set to 6.5 if the measured pH is less than 6.5 and set to 9.0 if the measured pH is greater than 9.0.
- The value of T shall be set to 7 if the measured temperature is less than 7°C.

For convenience, a calculator that may be used to determine 30-day average and single-sample (daily maximum) TAN criterion values is located at <https://floridadep.gov/dear/water-quality-standards-program/documents/total-ammonia-nitrogen-calculator%C2%A0>



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- a. Determine compliance with the 30-day average TAN criterion as follows:
    - (1) Calculate the TAN criterion value using pH and temperature measurements associated with each total ammonia sample. Then calculate the average of the resulting TAN criterion values (i.e. add together all the values calculated with the equation and divide by the total number of samples).
    - (2) Calculate the average of all effluent total ammonia concentrations measured.
    - (3) Effluent is in compliance if the average effluent total ammonia concentration is less than or equal to the calculated average TAN criterion.
  - b. Determine compliance with the single sample maximum TAN criterion as follows:
    - i. Calculate the TAN criterion value using pH and temperature measurements associated with each total ammonia sample. Multiply each resulting TAN criterion value by 2.5.
    - ii. Effluent is in compliance with the single sample TAN criterion if all effluent total ammonia concentrations are less than or equal to 2.5 times their corresponding calculated TAN criterion.
- [Rule 62-302.530(3), F.A.C.]*
6. The discharge shall not contain components that settle to form putrescent deposits or float as debris, scum, oil, or other matter. *[Rule 62-302.500(1)(a), F.A.C.]*
  7. The discharge shall not cause a visible sheen on the receiving water. *[Rule 62-302.530(3), F.A.C.]*
  8. The permittee shall ensure that the water quality standards for Class III freshwaters as defined in Sections 62-302.500 and 62-302.530, F.A.C., are not violated at the points of discharge.
  9. The limit for "Turbidity" shall be calculated as follows:  
  
$$\text{Limit} = \text{Background Turbidity} + 29 \text{ NTU}$$

The measured effluent value shall be recorded on the DMR in the parameter row for "Turbidity (effluent)." The measured background value shall be recorded on the DMR in the parameter row for "Turbidity (background)." The calculated effluent limit shall be recorded on the DMR in the parameter row for "Turbidity (calculated limit)." Compliance with the effluent limitation is determined by calculating the difference between the measured effluent value and the calculated. The compliance value shall be recorded on the DMR in the parameter row for "Turbidity (effluent minus calculated limit)." The compliance value shall not exceed 0.00.  
*[Rule 62-302.530(70), F.A.C.]*
  10. The limit for "Specific Conductance" shall be 1.5 times the background value or 1275 umhos/cm, whichever is greater.

The measured effluent value shall be recorded on the DMR in the parameter row for "Specific Conductance (effluent)." The measured background value shall be recorded on the DMR in the parameter row for "Specific Conductance (background)." The calculated effluent limit shall

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be recorded on the DMR in the parameter row for "Specific Conductance (calculated limit)." Compliance with the effluent limitation is determined by calculating the difference between the measured effluent value and the calculated. The compliance value shall be recorded on the DMR in the parameter row for "Specific Conductance (effluent minus calculated limit)." The compliance value shall not exceed 0.00. [Rule 62-302.530(22), F.A.C.]

11. During any sampling event performed in accordance with the monitoring requirements for the radioactive species specified in Condition I.A.1., above, a properly preserved sample must be taken for the determination of gross alpha particle activity and combined radium ( $Ra^{226} + Ra^{228}$ ). The sample must first be analyzed for gross alpha particle activity and if the total value exceeds the MCL of 15 pCi/L, the same sample (appropriately preserved as required above) shall be analyzed for combined radium ( $Ra^{226} + Ra^{228}$ ). The analytical results shall be reported as required by this permit (Condition I.E.3.) on the appropriate Discharge Monitoring Report.
12. The reported nutrient loadings for Total Nitrogen and Total Phosphorus are to be calculated using the total daily flow recorded for the day on which the sample is taken.
13. Total Nitrogen Loading is monitoring and report only for this permit, however the Annual Total Nitrogen Load (ATNL) from Outfall D-006 will be reported to and limited as set forth in Mosaic's TMDL Aggregate Permit, No. FL0757501. The ATNL will be calculated as an Annual Total based on a twelve-month calendar year (January-December):

- a. Total Nitrogen Load Calculation for Weekly Sampling:

$$TNL_{\text{Outfall}} = \sum_{i=1}^{i=52} (F_{Wk_i} \times C_{TN_i} \times 8.3454)$$

where:  $TNL_{\text{Outfall}}$  = Annual Total Nitrogen Load in pounds per calendar year

$\sum_{i=1}^{i=52}$  = Summation of loads for the past 52 calendar weeks [current week (i=1) plus previous 51 weeks] in pounds

$F_{Wk_i}$  = Total discharge flow in million gallons per calendar week

$C_{TN_i}$  = Total Nitrogen concentration in parts per million, as measured during the sampling event, each calendar week.

- b. The Annual Discharge Load for Nitrogen (ADLN) for the facility is calculated by summing the Total Nitrogen Loads ( $TNL_{\text{Outfall}}$ ), in lbs/year, associated with discharges from each outfall, per calendar year, as follows:

$$ADLN = TNL_{(D-006)}$$

14. Until a Load Allocation for Total Phosphorus is determined for this facility and this permit is modified pursuant to Rules 62-4.080 and 62-620.325, F.A.C., the permittee shall monitor and report loading for Total Phosphorus (as P) from Outfall D-006 as listed in Condition I.A.1.,

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above. The facility shall only be operated as authorized by this permit and shall make no changes outside of the scope of this authorization which would increase phosphorus loading above historic values without prior approval from the Department.

- a. The reported daily nutrient loadings for Total Phosphorus are to be calculated using the total daily flow recorded for the day on which the sample is taken.
- b. Total Phosphorus Load Calculation for Weekly Sampling:

$$TPL_{\text{Outfall}} = \sum_{i=1}^{i=52} (F_{\text{Wk } i} \times C_{\text{TP } i} \times 8.3454)$$

where:  $TPL_{\text{Outfall}}$  = Annual Total Phosphorus Load in pounds per calendar year

$\sum_{i=1}^{i=52}$  = Summation of loads for the past 52 calendar weeks [current week (i=1) plus previous 51 weeks] in pounds

$F_{\text{Wk } i}$  = Total discharge flow in million gallons per calendar week

$C_{\text{TP } i}$  = Total Phosphorus concentration in parts per million, as measured during the sampling event, each calendar week.

- c. The Annual Discharge Load for Phosphorus (ADLP) for this facility is calculated by summing the Total Phosphorus Loads ( $TPL_{\text{Outfall}}$ ), in lbs/year, associated with discharges from each outfall, per calendar year, as follows:

$$ADLP = TPL_{(D-006)}$$

- d. The Rolling Discharge Load for Phosphorus (RDLP) for the facility is calculated using the 5-year rolling average of the yearly Annual Discharge Load for Phosphorus (ADLP) and shall be calculated using the following equation upon availability of 5 years of data after issuance of this permit:

$$RDLP = \frac{\sum_{i=1}^{i=5} ADLP_i}{5}$$

where:  $\sum_{i=1}^{i=5}$  = Sum of loads over the past 5 calendar years [current year (i=1) plus previous 4 years].

[Rule 62-302.530(48), F.A.C.]

15. The permittee shall report the results of the annual loads on the proper DMR form as follows (**Table 5**), and submit the completed DMRs to the Department per Condition I.E.3.:

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**TABLE 5**

Parameter (Units)	Discharge Limitation	Statistical Basis	Monitoring Requirements		
			Monitoring Frequency	Sample Type	Sample Point
Nitrogen, Total (as N) (lbs/year)	Report	Annual Total	Annually	Calculation	Annual total loading calculations shall be made from data taken at sample point EFF-006.
Phosphorus, Total (as P) (lbs/year)	Report	Annual Total	Annually	Calculation	Annual total loading calculations shall be made from data taken at sample point EFF-006.
Phosphorus, Total (as P) (lbs/year)	Report	5-Year Rolling Annual Average	Annually	Calculation	5-year rolling annual average loading calculations shall be made from data taken at sample point EFF-006.

16. The permittee shall conduct routine biological monitoring, twice in a 5-year permit cycle, but not more frequently than once every year, of the South Prong Alafia River. This does not preclude the permittee from conducting additional, non-routine biological monitoring. The biological monitoring shall be conducted as follows:

- a. The permittee shall conduct biological monitoring at or near monitoring site SWD-6Bio1 to include a Habitat Assessment (HA), Linear Vegetation Survey (LVS), and Rapid Periphyton Survey (RPS), in accordance with the following: biological monitoring shall be performed in accordance with Rule 62-302.531, F.A.C. and applicable DEP SOPs, and shall be conducted only when the facility has discharged from Outfall D-006 at least 25% of the days during the three months preceding the monitoring event. The results of the biological monitoring and water quality data from the permitted outfall and receiving water bodies shall be used to determine compliance of the discharge with the provisions of Rules 62.302.530(48)(b) and 62-302.531(2)(c), F.A.C. The Annual Geometric Mean (AGM) calculated and reported separately per Condition I.A.1, above, for chlorophyll *a*, shall also be reported and evaluated as part the biological monitoring results. In the event a sampling window sufficient to meet both the FDEP SOPs for sampling and the discharge timing requirement do not occur simultaneously, sampling will occur in accordance with the FDEP SOPs.
- b. Biological monitoring at or near the confluence with Bethlehem Road (see **Attachment E**) shall consist of the following:
  - i. The permittee shall conduct biological monitoring at or near the confluence with Bethlehem Road (see **Attachment E**), to include a Habitat Assessment (HA), Linear Vegetation Survey (LVS), Rapid Periphyton Survey (RPS), and Stream Condition Index (SCI), in accordance with the following: biological monitoring shall be performed at appropriate downstream locations, in accordance with Rule 62-302.531, F.A.C. and applicable DEP SOPs, and shall be conducted only when the facility has discharged from Outfall D-006 at least 25% of the days during the three months preceding the monitoring event. The results of the biological monitoring and

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water quality data from the permitted outfall and receiving water bodies shall be used to determine compliance of the discharge with the provisions of Rules 62.302.530(48)(b) and 62-302.531(2)(c), F.A.C.

- ii. During the calendar years in which this biological monitoring is conducted, the permittee shall collect a sufficient quantity of instream samples, in accordance with Rule 62-302.531(6), F.A.C., of total nitrogen (TN), total phosphorus (TP), and chlorophyll *a*, within South Prong Alafia River, at or near the confluence with Bethlehem Road (see **Attachment E**). Samples shall be collected and analyzed in accordance with applicable DEP SOPs. The permittee shall calculate the annual geometric means (AGMs) for each parameter (TN, TP, and chlorophyll *a*). This data shall be reported and evaluated as part the biological monitoring results. In the event a sampling window sufficient to meet both the FDEP SOPs for sampling and the discharge timing requirement do not occur simultaneously, sampling will occur in accordance with the FDEP SOPs.
  - c. After the completion of biological monitoring as described in paragraphs 16.a and 16.b, above, a combined report shall be prepared for the calendar year during which the biological monitoring was performed, to document the results and conclusions of the assessment and submitted to the Department for review in accordance with Condition I.E.4., below, by March 28 of the following year. The report shall also include the results of any additional, non-routine biological monitoring that may have been performed by the permittee.
  - d. If biological monitoring data collected during the same timeframe as required by the permit, for the specific locations noted above are available from studies conducted by others, the permittee may use the results, provided that the studies were performed in accordance with Rule 62-301.531, F.A.C. and applicable DEP SOPs.
17. If any report on biological monitoring indicates that an imbalance of flora or fauna as measured by application of Conditions I.A.16.a or I.A.16.b, above, has occurred, the permittee shall submit to the Department a Plan of Study (POS) to identify the cause (s) of the imbalance within 90 days of receipt of notice from the Department. Upon approval of the POS by the Department, the permittee shall implement the study under the approved schedule including recommended actions to remedy the imbalance. The submittals under this paragraph shall be made in accordance with Permit Condition I.E.4, below.
18. The permittee shall comply with the following requirements to evaluate chronic whole effluent toxicity of the discharge from outfall D-006.
- a. Effluent Limitation
    - i. In any routine or additional follow-up test for chronic whole effluent toxicity, the 25 percent inhibition concentration (IC25) for reproduction or growth shall not be less than 100% effluent. [Rules 62-302.530(62) and 62-4.241(1)(b), F.A.C.]
    - ii. For acute whole effluent toxicity, the 96-hour LC50 shall not be less than 100% effluent in any test. [Rule 62-302.500(1)(a)4. and 62-4.241(1)(a), F.A.C.]
  - b. Monitoring Frequency
    - i. Routine toxicity tests shall be conducted once every six months, the first starting within 60 days of the effective date of this permit and lasting for the duration of this permit.

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c. Sampling Requirements

- i. For each routine test or additional follow-up test conducted, a total of three 24-hour composite samples of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-013, Section 8.
- ii. The first sample shall be used to initiate the test. The remaining two samples shall be collected according to the protocol and used as renewal solutions on Day 3 (48 hours) and Day 5 (96 hours) of the test.
- iii. Samples for routine and additional follow-up tests shall not be collected on the same day.

d. Test Requirements

- i. Routine Tests: All routine tests shall be conducted using a control (0% effluent) and a minimum of five test dilutions: **100%, 50%, 25%, 12.5%, and 6.25%** final effluent.
- ii. The permittee shall conduct a daphnid, **Ceriodaphnia dubia**, Survival and Reproduction Test and a fathead minnow, **Pimephales promelas**, Larval Survival and Growth Test, concurrently.
- iii. All test species, procedures and quality assurance criteria used shall be in accordance with **Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms**, 4th Edition, EPA-821-R-02-013. Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use. In the event the above method is revised, the permittee shall conduct chronic toxicity testing in accordance with the revised method.
- iv. The control water and dilution water shall be moderately hard water as described in EPA-821-R-02-013, Section 7.2.3.

e. Quality Assurance Requirements

- i. A standard reference toxicant (SRT) quality assurance (QA) chronic toxicity test shall be conducted with each species used in the required toxicity tests either concurrently or initiated no more than 30 days before the date of each routine or additional follow-up test conducted. Additionally, the SRT test must be conducted concurrently if the test organisms are obtained from outside the test laboratory unless the test organism supplier provides control chart data from at least the last five monthly chronic toxicity tests using the same reference toxicant and test conditions. If the organism supplier provides the required SRT data, the organism supplier's SRT data and the test laboratory's monthly SRT-QA data shall be included in the reports for each companion routine or additional follow-up test required.
- ii. If the mortality in the control (0% effluent) exceeds 20% for either species in any test or the "test acceptability criteria" are not met, the test for that species (including the control) shall be invalidated and the test repeated. Test acceptability criteria for each species are defined in EPA-821-R-02-013, Section 13.12 (**Ceriodaphnia dubia**) and Section 11.11 (**Pimephales promelas**). The repeat test shall begin within 21 days after the last day of the invalid test.
- iii. If 100% mortality occurs in all effluent concentrations for either test species prior to the end of any test and the control mortality is less than 20% at that time, the test (including the control) for that species shall be terminated with the conclusion that the test fails and constitutes non-compliance.



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- iv. Routine and additional follow-up tests shall be evaluated for acceptability based on the observed dose-response relationship as required by EPA-821-R-02-013, Section 10.2.6., and the evaluation shall be included with the bioassay laboratory reports.
- f. Reporting Requirements
  - i. Results from all required tests shall be reported on the Discharge Monitoring Report (DMR) as follows:
    - (1) Routine and Additional Follow-up Test Results: The calculated IC25 for reproduction or growth for each test species shall be entered on the DMR.
  - ii. A bioassay laboratory report for each routine test shall be prepared according to EPA-821-R-02-013, Section 10, Report Preparation and Test Review, and mailed to the Department at the address below within 30 days after the last day of the test.
  - iii. For additional follow-up tests, a single bioassay laboratory report shall be prepared according to EPA-821-R-02-013, Section 10, and mailed within 30 days after the last day of the second valid additional follow-up test.
  - iv. Data for invalid tests shall be included in the bioassay laboratory report for the repeat test.
  - v. The same bioassay data shall not be reported as the results of more than one test.
  - vi. All bioassay laboratory reports shall be sent to:  
Florida Department of Environmental Protection  
Division of Water Resource Management, Phosphate Management Office  
13051 N Telecom Parkway, Suite 101  
Temple Terrace, Florida 33637-926
- g. Test Failures
  - i. A test fails when the test results do not meet the limits in 18.a.i.
  - ii. Additional Follow-up Tests:
    - (1) If a routine test does not meet the chronic toxicity limitation in 18.a.i above, the permittee shall notify the Department at the address above within 21 days after the last day of the failed routine test and conduct two additional follow-up tests on each species that failed the test in accordance with 18.d.
    - (2) The first test shall be initiated within 28 days after the last day of the failed routine test. The remaining additional follow-up tests shall be conducted weekly thereafter until a total of two valid additional follow-up tests are completed.
    - (3) The first additional follow-up test shall be conducted using a control (0% effluent) and a minimum of five dilutions: 100%, 50%, 25%, 12.5%, and 6.25% effluent. The permittee may modify the dilution series in the second additional follow-up test to more accurately bracket the toxicity such that at least two dilutions above and two dilutions below the target concentration and a control (0% effluent) are run. All test results shall be analyzed according to the procedures in EPA-821-R-02-013.
  - iii. In the event of three valid test failures (whether routine or additional follow-up tests) within a 12-month period, the permittee shall notify the Department within 21 days after the last day of the third test failure.
    - (1) The permittee shall submit a plan for correction of the effluent toxicity within 60 days after the last day of the third test failure.
    - (2) The Department shall review and approve the plan before initiation.
    - (3) The plan shall be initiated within 30 days following the Department's written approval of the plan.

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- (4) Progress reports shall be submitted quarterly to the Department at the address above.
- (5) During the implementation of the plan, the permittee shall conduct quarterly routine whole effluent toxicity tests in accordance with 18.d. Additional follow-up tests are not required while the plan is in progress. Following completion or termination of the plan, the frequency of monitoring for routine and additional follow-up tests shall return to the schedule established in 18.b.i. If a routine test is invalid according to the acceptance criteria in EPA-821-R-02-013, a repeat test shall be initiated within 21 days after the last day of the invalid routine test.
- (6) Upon completion of four consecutive quarterly valid routine tests that demonstrate compliance with the effluent limitation in 18.a.i above, the permittee may submit a written request to the Department to terminate the plan. If the facility doesn't have a discharge during a scheduled testing quarter pursuant to this condition (or successive consecutive quarters), valid test results from the next consecutive testing quarter during which a discharge has occurred, shall be considered to satisfy the consecutive quarterly testing requirement. The plan shall be terminated upon written verification by the Department that the facility has passed at least four consecutive quarterly valid routine whole effluent toxicity tests. If a test within the sequence of the four is deemed invalid, but is replaced by a repeat valid test initiated within 21 days after the last day of the invalid test, the invalid test will not be counted against the requirement for four consecutive quarterly valid routine tests for the purpose of terminating the plan.
- iv. If chronic toxicity test results indicate greater than 50% mortality within 96 hours in an effluent concentration equal to or less than the effluent concentration specified as the acute toxicity limit in 18.a.ii, the Department may revise this permit to require acute definitive whole effluent toxicity testing.
- v. The additional follow-up testing and the plan do not preclude the Department taking enforcement action for acute or chronic whole effluent toxicity failures.

*[Rules 62-4.241 and 62-620.620(3), F.A.C.]*

#### **B. Underground Injection Control Systems**

- 1 This section is not applicable to this facility.

#### **C. Land Application Systems**

- 1 This section is not applicable to this facility.

#### **D. Other Methods of Disposal or Recycling**

- 1 There shall be no discharge of industrial wastewater from this facility to ground or surface waters, except as authorized by this permit.

#### **E. Other Limitations and Monitoring and Reporting Requirements**

1. The sample collection, analytical test methods, and method detection limits (MDLs) applicable to this permit shall be conducted using a sufficiently sensitive method to ensure compliance with applicable water quality standards and effluent limitations and shall be in accordance with Rule 62-4.246, Chapters 62-160 and 62-600, F.A.C., and 40 CFR 136, as appropriate. The list of

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Department established analytical methods, and corresponding MDLs (method detection limits) and PQLs (practical quantitation limits), which is titled "FAC 62-4 MDL/PQL Table (April 26, 2006)" is available at <http://www.dep.state.fl.us/labs/library/index.htm>. The MDLs and PQLs as described in this list shall constitute the minimum acceptable MDL/PQL values and the Department shall not accept results for which the laboratory's MDLs or PQLs are greater than those described above unless alternate MDLs and/or PQLs have been specifically approved by the Department for this permit. Any method included in the list may be used for reporting as long as it meets the following requirements:

- a. The laboratory's reported MDL and PQL values for the particular method must be equal or less than the corresponding method values specified in the Department's approved MDL and PQL list;
- b. The laboratory reported MDL for the specific parameter is less than or equal to the permit limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. Parameters that are listed as "report only" in the permit shall use methods that provide an MDL, which is equal to or less than the applicable water quality criteria stated in 62-302, F.A.C.; and
- c. If the MDLs for all methods available in the approved list are above the stated permit limit or applicable water quality criteria for that parameter, then the method with the lowest stated MDL shall be used.

When the analytical results are below method detection or practical quantitation limits, the permittee shall report the actual laboratory MDL and/or PQL values for the analyses that were performed following the instructions on the applicable discharge monitoring report.

Where necessary, the permittee may request approval of alternate methods or for alternative MDLs or PQLs for any approved analytical method. Approval of alternate laboratory MDLs or PQLs are not necessary if the laboratory reported MDLs and PQLs are less than or equal to the permit limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. Approval of an analytical method not included in the above-referenced list is not necessary if the analytical method is approved in accordance with 40 CFR 136 or deemed acceptable by the Department.

*[Rule 62-4.246, 62-160, F.A.C.]*

2. The permittee shall provide safe access points for obtaining representative influent and effluent samples which are required by this permit. *[Rule 62-620.320(6), F.A.C.]*
3. Monitoring requirements under this permit are effective on the first day of the second month following the effective date of the permit. Until such time, the permittee shall continue to monitor and report in accordance with previously effective permit requirements, if any. During the period of operation authorized by this permit, the permittee shall complete and submit to the Department Discharge Monitoring Reports (DMRs) in accordance with the frequencies specified by the REPORT type (i.e. monthly, quarterly, semiannual, annual, etc.) indicated on the DMR forms attached to this permit. Unless specified otherwise in this permit, monitoring results for each monitoring period shall be submitted in accordance with the associated DMR due dates below. DMRs shall be submitted for each required monitoring period including periods of no discharge.

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REPORT Type on DMR	Monitoring Period	Submit by
Monthly	first day of month - last day of month	28 <sup>th</sup> day of following month
Quarterly	January 1 - March 31 April 1 - June 30 July 1 - September 30 October 1 - December 31	April 28 July 28 October 28 January 28
Semiannual	January 1 - June 30 July 1 - December 31	July 28 January 28
Annual	January 1 - December 31	January 28

The permittee shall use the electronic DMR system approved by the Department (EzDMR) and shall electronically submit the completed DMR forms using the DEP Business Portal at <http://www.fldepportal.com/go/>, unless the permittee has a waiver from the Department in accordance with 40 CFR 127.15. Reports shall be submitted to the Department by the twenty-eighth (28th) of the month following the month of operation.  
[Rule 62-620.610(18), F.A.C.]

- Unless specified otherwise in this permit, all reports and other information required by this permit, including 24-hour notifications, shall be submitted to or reported to, as appropriate, the Department's Division of Water Resource Management, Phosphate Management Office at the address specified below:

Florida Department of Environmental Protection  
Division of Water Resource Management, Phosphate Management  
13051 N Telecom Parkway, Suite 101  
Temple Terrace, Florida 33637-0926

Phone Number - (813)470-5913  
E-mail: [DWRMIW.PM@dep.state.fl.us](mailto:DWRMIW.PM@dep.state.fl.us)  
[Rule 62-620.305, F.A.C.]

- All reports and other information shall be signed in accordance with the requirements of Rule 62-620.305, F.A.C. [Rule 62-620.305, F.A.C.]
- If there is no discharge from the facility on a day when the facility would normally sample, the sample shall be collected on the next working day (Monday through Friday) with a discharge. [Rule 62-620.320(6), F.A.C.]
- The permittee shall provide safe access points for obtaining representative samples which are required by this permit.

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## **II. SLUDGE MANAGEMENT REQUIREMENTS**

1. This section is not applicable to this facility.

## **III. GROUND WATER REQUIREMENTS**

1. The permittee shall give at least 72-hours' notice to the Department's Division of Water Resource Management, Phosphate Management Office, prior to the installation of any monitoring wells. *[Rule 62-520.600(6)(h), F.A.C.]*
2. Before construction of new ground water monitoring wells, a soil boring shall be made at each new monitoring well location to properly determine monitoring well specifications such as well depth, screen interval, screen slot, and filter pack. *[Rule 62-520.600(6)(g), F.A.C.]*
3. Within 30 days after installation of a monitoring well, the permittee shall submit to the Department's Division of Water Resource Management, Phosphate Management Office well completion reports and soil boring/lithologic logs on the attached DEP Form(s) 62-520.900(3), Monitoring Well Completion Report. *[Rule 62-520.600(6)(j) and .900(3), F.A.C.]*
4. All piezometers and monitoring wells not part of the approved ground water monitoring plan shall be plugged and abandoned in accordance with Rule 62-532.500(5), F.A.C., unless future use is intended. *[Rule 62-532.500(5), F.A.C.]*
5. The ground water minimum criteria specified in Rule 62-520.400 F.A.C., shall be met within the zone of discharge. *[Rules 62-520.400 and 62-520.420(4), F.A.C.]*
6. The permittee's discharge to ground water shall not cause a violation of water quality standards for Class G-II ground waters at the boundary of the zone of discharge in accordance with Rules 62-520.400 and 62-520.420, F.A.C. *[Rules 62-520.400 and 62-520.420, F.A.C.]*
7. During the period of operation authorized by this permit, the permittee shall continue to sample ground water at the existing monitoring wells identified in **Table 6** below, in accordance with this permit and the approved Ground Water Monitoring Plan, which was prepared in accordance with Rule 62-520.600, F.A.C.
8. The Ground Water Monitoring Plan (GWMP) for the facility has been modified to include appropriate monitoring requirements for the Phase III stack expansion. The following monitoring wells shall be sampled in accordance with the approved, modified GWMP (see **Attachment B** and **Attachment I**)

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**TABLE 6**

FDEP Well ID	Well Name	Aquifer Monitored	Description of Monitoring Location	Depth (ft)	Ground Elevation (ft NGVD 29)	Collection Zone Depth Interval (ft NGVD 29)	Coordinates (Degrees Minutes Seconds)	
							Latitude	Longitude
MWC-1	S-1	Surficial	Gypstack Phases I & II and Cooling Pond	18	118.7	115.2 to 100.7	27° 49' 31.3243"	-82° 03' 42.7255"
MWB-2	S-2	Surficial	Bradley, 2.5 miles SE of Phase II gypstack	18	140.1	136.6 to 122.1	27° 47' 57.7330"	-81° 58' 52.0193"
MWB-3	SA-5	Intermediate	Bradley, 2.5 miles SE of Phase II gypstack	108	140.3	49.3 to 32.3	27° 47' 57.7636"	-81° 58' 51.8789"
MWI-4	NWC-22-S1	Surficial	Phase I gypstack, due West	36	154.9	126.4 to 118.9	27° 49' 02.5146"	-82° 02' 35.4518"
MWI-5	NWC-23-S1	Surficial	Phase I gypstack, due West	36	156	127.0 to 120.0	27° 48' 58.3660"	-82° 02' 31.3180"
MWC-6	NWC-23-I1	Intermediate	Phase I gypstack, due West	74	155.7	89.2 to 81.7	27° 48' 58.7369"	-82° 02' 31.6917"
MWI-7	NWC-24-S1	Surficial	Phase I gypstack, due West	36	152.4	123.4 to 116.4	27° 48' 53.2839"	-82° 02' 26.3773"

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FDEP Well ID	Well Name	Aquifer Monitored	Description of Monitoring Location	Depth (ft)	Ground Elevation (ft NGVD 29)	Collection Zone Depth Interval (ft NGVD 29)	Coordinates (Degrees Minutes Seconds)	
							Latitude	Longitude
MWC-8	NWC-3-S1	Surficial	Northwest corner of CSA A-11	29	150	128.0 to 121.0	21° 50' 08.2767"	-82° 02' 05.1683"
MWB-9	NWC-3-I4	Intermediate	Northwest corner of CSA A-11	272	166.0	-47.0 to -106.0	27° 50' 09.5454"	-82° 02' 03.2477"
MWI-13	NWC-5-I4A	Intermediate	Cooling pond, due Southwest, between cooling pond & AHP	252.5	156.6	-50.4 to -95.9	27° 49' 23.8292"	-82° 02' 49.8916"
MWC-14	NWC-32-F2	Floridan	Western part of property	751	139.9	-160.1 to -611.1	27° 49' 22.1197"	-82° 03' 45.5375"
MWI-15	NWC-34-S1	Surficial	Phase II gypstack, adjacent and due West	32	148.5	130.5 to 116.5	27° 48' 41.1797"	-82° 02' 18.2806"
MWC-16	NWC-34-I1	Intermediate	Phase II gypstack, adjacent and due West	92	148.5	70.5 to 56.5	27° 48' 41.0976"	-82° 02' 18.2625"
MWI-17*	NWC-35-S1	Surficial	Phase II gypstack, adjacent and	33	147.4	128.4 to 114.4	27° 48' 28.5180"	-82° 02' 11.4709"

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FDEP Well ID	Well Name	Aquifer Monitored	Description of Monitoring Location	Depth (ft)	Ground Elevation (ft NGVD 29)	Collection Zone Depth Interval (ft NGVD 29)	Coordinates (Degrees Minutes Seconds)	
							Latitude	Longitude
			due Southwest					
MWI-18*	NWC-36-S1	Surficial	Phase II gypstack, adjacent and due South	52	146.7	124.7 to 94.7	27° 48' 26.6939"	-82° 01' 51.3267"
MWC-19*	NWC-36-I1	Intermediate	Phase II gypstack, adjacent and due South	71	146.7	84.7 to 75.7	27° 48' 26.6923"	-82° 01' 51.4310"
MWI-20*	NWC-37-S1	Surficial	Phase II gypstack, adjacent and due South	37	146.5	124.5 to 109.5	27° 48' 26.6542"	-82° 01' 31.8609"
MWI-21*	NWC-38-S1	Surficial	Phase II gypstack, adjacent and due Southeast	61	164.9	128.9 to 103.9	27° 48' 36.2989"	-82° 01' 14.2489"
MWC-22*	NWC-38-I1	Intermediate	Phase II gypstack, adjacent and due Southeast	96	164.8	78.8 to 68.8	27° 48' 36.2499"	-82° 01' 14.3067"



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FDEP Well ID	Well Name	Aquifer Monitored	Description of Monitoring Location	Depth (ft)	Ground Elevation (ft NGVD 29)	Collection Zone Depth Interval (ft NGVD 29)	Coordinates (Degrees Minutes Seconds)	
							Latitude	Longitude
MWI-17R	NWC-35-S1R	Surficial	Phase III gypstack, adjacent & due West	TBD	TBD	TBD	TBD	TBD
MWI-18R	NWC-36-S1R	Surficial	Phase III gypstack, adjacent & due South	TBD	TBD	TBD	TBD	TBD
MWI-19R	NWC-37-S1R	Surficial	Phase III gypstack, adjacent & due South	TBD	TBD	TBD	TBD	TBD
MWI-20R	NWC-38-S1R	Surficial	Phase III gypstack, adjacent & due Southeast	TBD	TBD	TBD	TBD	TBD
MWC-21R	NWC-36-I1R	Intermediate	Phase III gypstack, adjacent & due South	TBD	TBD	TBD	TBD	TBD
MWC-22R	NWC-38-I1R	Intermediate	Phase III gypstack, adjacent &	TBD	TBD	TBD	TBD	TBD

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FDEP Well ID	Well Name	Aquifer Monitored	Description of Monitoring Location	Depth (ft)	Ground Elevation (ft NGVD 29)	Collection Zone Depth Interval (ft NGVD 29)	Coordinates (Degrees Minutes Seconds)	
							Latitude	Longitude
			due Southeast					
MWI-54	NWC-46-S1	Surficial	Phase III gypstack, adjacent & due Southwest	TBD	TBD	TBD	TBD	TBD
MWI-55	NWC-47-S1	Surficial	Phase III gypstack, adjacent & due Southeast	TBD	TBD	TBD	TBD	TBD
MWI-56	NWC-48-S1	Surficial	Phase III gypstack, adjacent & due East	TBD	TBD	TBD	TBD	TBD
MWC-57	NWC-46-I1	Intermediate	Phase III gypstack, adjacent & due Southwest	TBD	TBD	TBD	TBD	TBD
MWC-58	NWC-47-I1	Intermediate	Phase III gypstack, adjacent &	TBD	TBD	TBD	TBD	TBD

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							Latitude	Longitude
			due Southeast					
MWC-59	NWC-48-I1	Intermediate	Phase III gypstack, adjacent & due East	TBD	TBD	TBD	<i>TBD</i>	<i>TBD</i>
MWB-61	NWC-44-F1	Floridan	Phase III gypstack, adjacent & due Southeast	340	193.3	305 to 340	27° 48' 18.96"	-82° 01' 15.94"
MWC-62	NWC-45-F1	Floridan	Phase III gypstack adjacent & due Southwest	292	163.7	257 to 292	27° 48' 02.85"	-82° 02' 17.13"
MWC-60	NWC-49-F2	Floridan	Phase III gypstack, adjacent & due West	TBD	TBD	TBD	<i>TBD</i>	<i>TBD</i>
MWI-23	NWC-39-S1	Surficial	Phase II gypstack, adjacent and due East	55	165.3	130.3 to 110.3	27° 48' 48.4021"	-82° 01' 07.3541"

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FDEP Well ID	Well Name	Aquifer Monitored	Description of Monitoring Location	Depth (ft)	Ground Elevation (ft NGVD 29)	Collection Zone Depth Interval (ft NGVD 29)	Coordinates (Degrees Minutes Seconds)	
							Latitude	Longitude
MWI-24	NWC-33-F1	Floridan	South gypstack, due West and between Phases I and II	306	168.1	-86.9 to -127.9	27° 48' 51.3249"	-82° 02' 28.2865"
MWC-47	NWC-33-F2	Floridan	South gypstack, due West and between Phases I and II	850	166	-485 to -685	27° 48' 49.0104"	-82° 02' 28.3416"
MWI-1	NWC-6-I1	Intermediate	AHP, due West	79.5	159.3	99.8 to 79.8	27° 49' 30.6719"	-82° 03' 11.7210"
MWC-2	NWC-6-I2	Intermediate	AHP, due West	145	159.2	46.7 to 14.2	27° 49' 31.1591"	-82° 03' 11.7271"
MWC-3	NWC-6-I4	Intermediate	AHP, due West	250.5	159.3	-45.7 to -91.2	27° 49' 31.6532"	-82° 03' 11.7118"
MWI-39	NWC-6-S1	Surficial	AHP, due West	31.5	158.6	152.1 to 127.1	27° 49' 30.1805"	-82° 03' 11.8086"

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							Latitude	Longitude
MWI-40	NWC-6-S2	Surficial	AHP, due West	31	151.2	145.2 to 120.2	27° 49' 30.5437"	-82° 03' 14.9008"
MWI-41	NWC-13-S1	Surficial	AHP, due West	50	157.3	147.3 to 107.3	27° 49' 20.7378"	-82° 03' 11.8980"
MWI-42	NWC-13-S2	Surficial	AHP, due West	51	145.3	132.3 to 94.3	27° 49' 20.7064"	-82° 03' 15.0796"
MWC-43	NWC-40-F2	Floridan	Western part of property	919	197.2	-78.8 to -721.8	27° 48' 49.2903"	-82° 03' 45.5830"
MWC-44	NWC-41-F2	Floridan	Western part of property	876	168	-108.0 to -706.0	27° 47' 58.5262"	-82° 03' 45.5409"
MWC-45	NWC-42-F1	Floridan	Phase II gypstack, adjacent and due West	315	167.4	-92.6 to -147.6	27° 48' 32.1384"	-82° 02' 23.4089"
MWB-46	NWC-43-F1	Floridan	Southeast of Phase II gypstack	346	163.6	-123.4 to -182.6	27° 48' 43.3066"	-82° 00' 45.6847"

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FDEP Well ID	Well Name	Aquifer Monitored	Description of Monitoring Location	Depth (ft)	Ground Elevation (ft NGVD 29)	Collection Zone Depth Interval (ft NGVD 29)	Coordinates (Degrees Minutes Seconds)	
							Latitude	Longitude
MWC-P4B	NWC-P-4B	Floridan	Recovery Well west of Phase II South gypstack	832	195.9	-134.1 to -636.1	27° 48' 49.0753"	-82° 02' 51.5347"
MWC-P5	NWC-P-5	Floridan	Recovery Well west of Phase I South gypstack	825	176.7	-131.3 to -648.3	27° 49' 03.8692"	-82° 03' 24.0222"

Monitor Well Types: MWB = Background Well; MWI = Observation Well; MWC = Compliance Well; TBD = To Be Determined.

\*See Condition III.27

[Rule 62-520.600, F.A.C.]

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9. The following parameters shall be analyzed for each monitoring well identified in Permit Condition III.8 (**Table 6**).

**TABLE 7**

Parameter	Compliance Well Limit	Units	Sample Type	Monitoring Frequency
Water Level Relative to NGVD*	Report	ft	In Situ	Quarterly
Temperature (C), Water	Report	Deg C	In Situ	Quarterly
pH	Report	s.u.	In Situ	Quarterly
Turbidity	Report	NTU	In Situ	Quarterly
Specific Conductance	Report	umhos/cm	Grab	Quarterly
Solids, Total Dissolved (TDS)	Report	mg/L	Grab	Quarterly
Alpha, Gross Particle Activity	15	pCi/L	Grab	Quarterly
Radium 226 + Radium 228, Total	5	pCi/L	Grab	Quarterly
Sodium, Total Recoverable	160	mg/L	Grab	Quarterly
Fluoride, Total (as F)	4.0	mg/L	Grab	Quarterly
Sulfate, Total	Report	mg/L	Grab	Quarterly
Phosphate, Ortho (as P)	Report	mg/L	Grab	Quarterly

*\*Water level reading not required for wells MWC-P4B and MWC-P5 if wells are operating.  
[Rule 62-520.600(11)(b), F.A.C.]*

10. In addition to the parameters listed above in Condition III.9 (**Table 7**), the following additional parameters shall be analyzed only for monitoring wells MWC-2 (NWC-6-I2) and MWC-3 (NWC-6-I4):

**TABLE 8**

Parameter	Compliance Well Limit	Units	Sample Type	Monitoring Frequency
Arsenic, total Recoverable	0.010	mg/L	Grab	Quarterly
Cadmium, Total Recoverable	0.005	mg/L	Grab	Quarterly
Chromium, Total Recoverable	0.1	mg/L	Grab	Quarterly
Lead, Total Recoverable	0.015	mg/L	Grab	Quarterly

*[Rule 62-520.600(11)(b), F.A.C.]*

11. In addition to the requirements of Conditions III.9 and III.10 above, the permittee shall monitor the wells described below in Condition III.11.b, as shown below in Conditions III.11.a and III. 11.b (see **Table 9** and **Table 10**, respectively), and submit reports of the results to the Department by Wednesday of the week following the monitoring period, via electronic mail, in accordance with Condition I.E.4 above. The monitoring under this Condition shall conclude at the end of the monitoring periods as listed herein (**Table 10**).

- a. The following parameters (**Table 9**) shall be monitored for the wells and frequencies listed in **Table 10**:

**TABLE 9**

Parameter	Units	Sample Type
Water Level Relative to NGVD*	Ft	In Situ

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Parameter	Units	Sample Type
pH	S.U.	In Situ
Specific Conductance	µmhos/cm	In Situ
Sodium, Total Recoverable	mg/L	Grab
Sulfate, Total	mg/L	Grab
Solids, Total Dissolved Solids (TDS)	mg/L	Grab
Total Phosphorus (as P)	mg/L	Grab
Ortho Phosphate (as P)	mg/L	Grab

*\*Water level reading not required for wells MWC-P4B and MWC-P5 if wells are operating.*

- b. The following table (**Table 10**) outlines the wells and frequencies for which the parameters in **Table 9**, above, are to be monitored:

**TABLE 10**

Well ID.	Monitoring Frequency and Timeframe
NWC-P-4B	Weekly
NWC-P-5	Daily (when running)
NWC-32-F2, NWC-33-F2, NWC-40-F2, NWC-41-F2	Monthly through 12/31/2022

12. If the concentration for any constituent listed in Conditions III.9, III.10, and III.11, above, in the natural background quality of the ground water is greater than the stated maximum, or in the case of pH is also less than the minimum, the representative background quality shall be the prevailing standard. *[Rule 62-520.420(2), F.A.C.]*
13. During the fifth year of this permit cycle, but no later than six (6) months prior to the expiration of this permit, the permittee shall perform a one-time analysis of all monitoring wells listed in **Table 6** above for the parameters listed in the following table (**Table 11**). The results of the analyses shall be reported to the Department by the permittee as a part of the permit renewal application.

**TABLE 11**

Parameter	Compliance Well Limit	Units	Sample Type	Monitoring Frequency
Water Level Relative to NGVD	Report	ft	In Situ	Once Every Five Years
Temperature (C), Water	Report	Deg C	In Situ	Once Every Five Years
pH	Report	s.u.	In Situ	Once Every Five Years
Turbidity	Report	NTU	In Situ	Once Every Five Years
Specific Conductance	Report	µmhos/cm	Grab	Once Every Five Years
Solids, Total Dissolved (TDS)	Report	mg/L	Grab	Once Every Five Years
Alpha, Gross Particle Activity	15	pCi/L	Grab	Once Every Five Years
Radium 226 + Radium 228, Total	5	pCi/L	Grab	Once Every Five Years
Sodium, Total Recoverable	160	mg/L	Grab	Once Every Five Years
Fluoride, Total (as F)	4.0	mg/L	Grab	Once Every Five Years
Sulfate, Total	Report	mg/L	Grab	Once Every Five Years
Phosphate, Ortho (as P)	Report	mg/L	Grab	Once Every Five Years



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Parameter	Compliance Well Limit	Units	Sample Type	Monitoring Frequency
Chloride	Report	mg/L	Grab	Once Every Five Years
Nitrite plus Nitrate, Total (as N)	Report	mg/L	Grab	Once Every Five Years
Coliform Bacteria, Fecal	Report	#/100 mL	Grab	Once Every Five Years
Foaming Agents	Report	mg/L	Grab	Once Every Five Years
Arsenic	0.01	mg/L	Grab	Once Every Five Years
Cadmium	0.005	mg/L	Grab	Once Every Five Years
Chromium	0.1	mg/L	Grab	Once Every Five Years
Copper	Report	mg/L	Grab	Once Every Five Years
Lead	0.015	mg/L	Grab	Once Every Five Years
Mercury	0.002	mg/L	Grab	Once Every Five Years
Manganese	Report	mg/L	Grab	Once Every Five Years
Carbon Tetrachloride	0.003	mg/L	Grab	Once Every Five Years
1,1,1-Trichloroethane	0.2	mg/L	Grab	Once Every Five Years
1,2-Dichloroethane	0.003	mg/L	Grab	Once Every Five Years
Vinyl Chloride	0.001	mg/L	Grab	Once Every Five Years
Trichloroethylene	0.003	mg/L	Grab	Once Every Five Years
Benzene	0.001	mg/L	Grab	Once Every Five Years

14. The requirements for pumping rates from each of the three production wells located in the Chemical Plant are in Consent Agreement OGC Case No. 99-1941 for the Closed New Wales Stack (NPDES Permit No. FL0178527).
15. Water levels shall be recorded before evacuating each well for sample collection. Elevation references shall include the top of the well casing and land surface at each well site (NGVD allowable) at a precision of plus or minus 0.01 foot. *[Rule 62-520.600(11)(c), F.A.C.]*
16. The permittee's discharge to ground water shall not cause a violation of water quality standards for Class G-II ground waters at the boundary of the zone of discharge in accordance with Rules 62-520.400 and 62-520.420, F.A.C. *[Rules 62-520.400 and 62-520.420, F.A.C.]*
17. The permittee's discharge to ground water shall not cause a violation of the minimum criteria for ground water specified in Rules 62-520.400 and 62-520.420, F.A.C., within the ground water zone of discharge. *[Rules 62-520.400 and 62-520.420, F.A.C.]*
18. Ground water monitoring wells shall be purged prior to sampling to obtain representative samples. All sampling procedures and field activities required by this permit must follow the Department of Environmental Protection Standard Operating Procedures for Field Activities, which are available at <https://floridadep.gov/dear/quality-assurance/content/dep-sops> *[Rule 62-160.210, F.A.C.]*
19. Analyses shall be conducted on unfiltered samples, unless filtered samples have been approved by the Department's Division of Water Resource Management, Phosphate Management Office as being more representative of ground water conditions. *[Rule 62-520.310(5), F.A.C.]*
20. Ground water monitoring test results shall be submitted on Part D of Form 62-620.910(10) in accordance with Permit Condition I.E.3. *[Rule 62-520.600(11)(b), F.A.C.]*

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21. If any monitoring well becomes inoperable or damaged to the extent that the sampling or well integrity may be affected, the permittee shall notify the Department's Division of Water Resource Management, Phosphate Management Office within two business days from discovery, and a detailed written report shall follow within ten days after notification to the Department. The written report shall detail what problem has occurred and remedial measures that have been taken to prevent recurrence or request approval for replacement of the monitoring well. All monitoring well design and replacement shall be approved by the Department's Division of Water Resource Management, Phosphate Management Office before installation. *[Rule 62-520.600(6)(l), F.A.C.]*

22. Due to the geochemistry of the parameter and hydrogeology of central and coastal Florida,, if the arsenic concentration of a ground water sample taken from a compliance monitor well exceeds the ground water criterion of 0.010 mg/l, the permittee shall resample the well and reanalyze for arsenic to confirm the result. If the resample is above the arsenic ground water criterion of 0.010 mg/l, then the permittee shall submit an evaluation report to the Department assessing whether the elevated arsenic concentration is indicative of impacts from a ground water discharge associated with the permittee's operations. The report should examine trends and concentrations of ground water parameters in all monitoring data required by the permit, including the process water "indicator parameters" (e.g., sodium and sulfate), to evaluate whether the presence of a process water plume within an aquifer is the cause of the arsenic exceedance. Only one such evaluation report shall be required per permit cycle.

The estimated submittal date to the Department of the evaluation report should be denoted on the discharge monitoring report or discharge monitoring report cover letter. The evaluation report shall be submitted to the Department within 45 days from the submittal of the quarterly ground water monitoring report that shows an elevated arsenic level. The Department shall accept or reject the conclusions of the report in writing within 45 days. If the Department rejects the report, it must state with specificity the reasons for the rejection. If the Department accepts the conclusion that the data indicates that activities of the permittee are not responsible for the arsenic exceedance, the exceedance will not be considered a violation of the ground water quality criterion for arsenic. *[Rules 62-550.310(1)(a) & (c), F.A.C.]*

23. The permittee shall submit supplemental monitoring data for the locations in accordance with the document entitled "Revised Request for Modification of Existing FDEP Groundwater Monitoring Program in Light of Application for Rescission of DRI Development Order". The monitoring requirements are summarized in **Attachment C**. The permittee shall submit an annual report documenting the results of the supplemental monitoring, along with trending analysis and any recommendations based upon analysis of the results, to the Department for review.

24. During the sample event performed in accordance with the monitoring requirements above, a properly preserved sample of gross alpha particle activity as well as combined radium<sup>226</sup> + radium<sup>228</sup> shall be collected. The sample should be first analyzed for gross alpha particle activity. If the total value of the gross alpha particle activity exceeds the MCL of 15 pCi/L, the combined radium<sup>226</sup> + radium<sup>228</sup> sample shall be analyzed and reported.

*[Rule 62-550.310(1)(a), F.A.C.]*

25. The permittee shall provide verbal notice to the Department as soon as practical after discovery of a sinkhole within an area for the management or application of wastewater or

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sludge. The permittee shall immediately implement measures appropriate to control the entry of contaminants, and shall detail these measures to the Department in a written report within seven days of the sinkhole discovery. Pursuant to Section 403.077, F.S., the Permittee shall provide any required notice of a reportable pollution release.

26. Ground water monitoring test results shall be submitted on Part D of DEP Form 62-620.910(10) and shall be submitted in conjunction with the DMR in accordance with Condition I.E.3, above. The data shall also be reported in electronic format on compact disc (CD) or other acceptable electronic media (e.g., electronic mail) and submitted to the Department at the address in Condition I.E.4, above. To facilitate processing of this data, a photocopy of these forms or an exact electronic replica, which has not been altered as to content or format, must be used for this submission. The original copies of the forms should be retained on file so that the necessary information is available for future reports.
27. Monitoring wells MWI-17, MWI-18, MWC-19, MWI-20, MWI-21, and MWC-22 shall be abandoned and replaced by monitoring wells MWI-17R, MWI-18R, MWC-19R, MWI-20R, MWI-21R, and MWC-22R, respectively. Until construction of the replacement wells and abandonment of the existing wells is complete, the permittee shall continue to monitor the existing wells.

#### **IV. OTHER GROUNDWATER DISCHARGE REQUIREMENTS**

1. A zone of discharge is established for the phosphogypsum stack system, more specifically described as follows:
  - a. The Zone of Discharge for the lined phosphogypsum stack expansion extends horizontally to the property boundary (see **Attachment F**) and vertically to the base of the surficial water table aquifer on the west, south, and east sides of the expansion area in accordance with Rule 62-520.465(2), F.A.C. Vertical compliance shall be determined by the intermediate aquifer compliance wells listed in Condition III.8 above.
  - b. The Horizontal Zone of Discharge for any unlined cooling pond extends horizontally along the ground surface to the property line existing at the time of permit issuance (see **Attachment F**) as delineated in the facility's approved Ground Water Monitoring Plan.
  - c. The Vertical Zones of Discharge for any unlined cooling pond are as follows:
    - i. For gross alpha, radium, fluoride, arsenic, cadmium, chromium, and lead, the Vertical Zone of Discharge extends to the base of the aquifer or transmissive zone within the Undifferentiated Arcadia Formation of the intermediate aquifer system, no deeper than 55 feet NGVD.
    - ii. For sodium, the Vertical Zone of Discharge extends to the base of the aquifer or transmissive zone within the Undifferentiated Arcadia Formation of the intermediate aquifer system, no deeper than 25 feet NGVD.
  - d. The Horizontal and Vertical Zones of Discharge for the unlined North phosphogypsum stack will be specified in Closure Permit No. FL0178527.

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## **V. OPERATION AND MAINTENANCE REQUIREMENTS**

### **A. Operation of Treatment and Disposal Facilities**

1. During the period of operation authorized by this permit, the wastewater facilities shall be operated under the supervision of a person who is qualified by formal training and/or practical experience in the field of water pollution control. *[Rule 62-620.320(6), F.A.C.]*
2. During the period of operation authorized by this permit, Outfall D-006 shall be operated and maintained in accordance with the applicable requirements of Chapter 62-620, F.A.C. and this permit.
3. The permittee shall ensure that the operation of this facility is as described in the application and supporting documents.
4. The permittee shall ensure that the operation and closure activities for the phosphogypsum stack system comply with all applicable requirements of Chapters 62-672 and 62-673 of the Florida Administrative Code.
5. The permittee shall ensure that all above ground impoundments are operated, maintained, and inspected in accordance with the applicable requirements of Chapter 62-672, F.A.C. and this permit. The permittee shall also perform separate comprehensive inspections of exposed liners within the active phosphogypsum stack system, to provide a detailed and enhanced inspection of the condition of liners that remain exposed to ensure any defects are promptly identified and repaired. The inspection shall follow the protocol established under the Exposed Liner Inspection Plan (ELIP), for implementation as part of the facility BMP. The ELIP inspections shall also include a bathymetric survey (conducted at the same frequency as the ELIP inspections) of liner below the water level, performed by a Florida Licensed Surveyor and Mapper, to produce a digital elevation model of the lined pond bottom to evaluate whether any changes in bottom configuration require further inspection or repair. Where practicable, the permittee shall conduct liner inspections below the water level using a remotely operated underwater vehicle. ELIP inspection results shall be reported to the Department in accordance with the reporting requirements of Rule 62-672.770, F.A.C.
6. The Phase III extension authorized under this permit is not authorized to rise any portion of the overall Phase I, II and III (Combined Phase III) stack height above the previously permitted average water height of 460 feet, NGVD, except subject to the following conditions:
  - a. At least 180 days prior to the expected attainment of the height of 460 feet, NGVD, the permittee shall submit a plan for review by the Department, in consultation with the State Geologist and other Department engineering and geology professionals, to perform a geophysical and geotechnical evaluation of the aerial extent of the existing south slope of the Phase II Stack and of the East Compartment of the Phase II Stack (Phase II East Evaluation), to identify any anomalous conditions that may exist within the mass of gypsum above the liner, using applicable hydrogeological, geophysical, and geotechnical methods. As specified in the application file for PA File No. FL0036421-022-IW1S/RA, the plan shall include, at a minimum, a microgravity survey, evaluation

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of information obtained from the geophone network surrounding the entire South Gypstack (Phases I, II, and III), and confirmatory borings where applicable.

- b. The permittee may initiate the Phase II East Evaluation following receipt of written approval by the Department. Upon completion of the geophysical investigation, the permittee shall submit a report (Phase II East Evaluation Report) for review by the Department, in consultation with the State Geologist and other Department engineering and geology professionals, documenting its findings and recommendations for construction specifications and associated environmental protections.
- c. The permittee shall implement the recommendations of the Phase II East Evaluation Report, as approved by the Department, following receipt of written approval by the Department.

The Department will review, in consultation with the State Geologist and other Department engineering and geology professionals the findings and recommendations of the hydrogeological, geophysical and geotechnical evaluation, to determine whether engineering measures or other modifications are necessary to raise the final height of the Combined Phase III stack. The permittee shall only increase the height of the Combined Phase III stack above the currently permitted average water height of 460 feet, NGVD, to the maximum height as approved in accordance with the Department's decision. In no case shall the average water height of any compartment of the Combined Phase III stack exceed 520 feet, NGVD.

- 7. The permittee is authorized to transfer lime treated process water and untreated raw process water from Mosaic's Nichols facility [Permit No. FL0030139] to Mosaic's New Wales facility via an existing double walled process water pipeline or by truck. The treated wastewater transferred may be either single or double-lined process water depending on the operational parameters of the two facilities at the time. The permittee shall keep a daily record onsite of all wastewater transfers from the Nichols facility to the New Wales facility including at a minimum the type of water (raw, single-stage lime treated, and two-stage lime treated), date, and total volume, as well as a weekly record of the pH of each type of water transferred during the week.
- 8. The permittee is authorized to accept the transfer of untreated raw process water from Mosaic's Green Bay Chemical Plant facility [Permit No. FL0000752] and Mosaic's Plant City Facility [Permit No. FL0000078] to Mosaic's New Wales facility via trucks. The permittee shall keep a daily record onsite of all approved wastewater transfers from other facilities to the New Wales facility including at a minimum date and total volume, as well as a weekly record of the pH from water transferred from each facility. In addition, the permittee is authorized to transfer untreated raw process water from the New Wales facility to the Mosaic's Green Bay Chemical Plant facility [Permit No. FL0000752], in accordance with the provisions of condition V.A.18 below.
- 9. The permittee shall ensure that the management, treatment and discharge of all process water received or generated at the New Wales facility shall comply with the requirements of Rule 62-672.780, F.A.C.; and the permittee shall ensure that the Contingency Plans required by Rule 62-672.850, F.A.C., are updated to reflect any new or expanded phosphogypsum stacking operations, including any increased ability needed to mobilize

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- equipment and manpower to respond to emergency situations. In updating its Contingency Plan, the Permittee shall evaluate, and incorporate to the extent practicable, options for mobilizing emergency process water treatment, such as reverse osmosis or other conventional or innovative treatment technologies, and increased storage options to contain process water onsite. Such updated Contingency Plan shall be submitted to the Department for inspection prior to placing any new or expanded phosphogypsum stacking areas into operation.
10. The permittee shall ensure that at no time will water from the New Wales D-006 discharge system flow path be allowed into a flow path that leads to any of the Kingsford Mine released reclaimed areas.
  11. The permittee shall ensure that stormwater runoff and steam condensate collected from the sulfur melting process will be routed through the facility's existing stormwater management system to CSA A-11 and then to Outfall D-006 for discharge, if needed.
  12. The permittee shall ensure that all process wastewater from the sulfur melting process will be routed either to the ball mill circuit or to the facility's process water system.
  13. The permittee shall have a third-party engineer inspect the dike structure and spillway system at CSA K-4 prior to the onset of a storm of sufficient magnitude that may result in runoff volume that can stage up at a rate greater than one foot in a 24-hour period.
  14. The permittee is authorized to deposit in or on the active lined Phosphogypsum Stack, in addition to phosphogypsum and cooling pond water, "normal phosphogypsum manufacturing materials," that is all solid waste materials related to the production and conveyance of phosphogypsum and cooling pond water, such as elemental sulfur, process wastes generated during turnarounds (vessel sludge, etc.) and NORM (Naturally Occurring Radioactive Materials) solid waste materials subject to licensure by the Department of Health. The permittee shall maintain records of all significant solid waste deposits, including the type, amount, date of deposit, and location. These records shall be made available to Department personnel upon request. Unless as authorized above, disposal of non-phosphogypsum related materials within the phosphogypsum stack system is prohibited without prior written authorization from the Department. The disposal of all other solid waste materials at this facility shall be in accordance with the Department's regulations as contained in F.A.C. Rule 62-701.
  15. The permittee has been authorized to place solid waste (fertilizer and mixed grains only) from the railcar wash and cleaning stations into the process water cooling pond system or onto the active lined phosphogypsum stack.
  16. The permittee shall ensure that the filter cake produced by the molten sulfur filter units will be placed within the facility's active lined phosphogypsum stack. A record of the disposal dates, location within the active lined phosphogypsum stack, and amounts shall be kept onsite. The data shall be made available to the Department upon request.
  17. The permittee has been authorized to place the following solid wastes, which are unusable and not recyclable, into the active lined phosphogypsum stack: ammoniated phosphate fertilizers, Animal Feed Ingredients, elemental sulfur, railcar cleaning debris materials, and

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phosphate rock derived from cleaning ditches and sumps. Please ensure that placement of all materials in the lined phosphogypsum stack complies with the following provisions:

- a. The approved materials shall be placed in an interior location within the facility's active lined phosphogypsum stack, while maintaining a minimum setback distance of 200 feet from the perimeter crest dike;
  - b. The permittee shall record a description of the type of material for disposal, the geographical coordinates of the disposal location within the active lined phosphogypsum stack, the date of material placement, the volume of the material deposited; and;
  - c. A record of each disposal within the active lined phosphogypsum stack shall be maintained onsite and made available to Department personnel upon request.
18. The permittee is authorized to transfer untreated raw process water to the Mosaic Green Bay facility [Permit No. FL0000752] and shall operate the process water transfer station in accordance with applicable provisions of this permit, and as outlined below.
- a. Mosaic shall provide monthly updates on status of the current storage capacity and the projected need for the continued transfer of process water.
  - b. Mosaic shall utilize a unified truck tank designed to match its unified loading apparatus (tire chalk, drop down hose and connector, valves, pipes, pump operator remote start/driver acknowledgement screen, flow measurement, shipping document, etc.) to minimize load time and maximize the safety and environmental protectiveness of the loading process.
  - c. Mosaic shall ensure that the transportation of the materials from the New Wales Concentrates Plant to the Green Bay facility is undertaken in accordance with all applicable requirements of the United States Department of Transportation for the transport of hazardous materials found at 49 C.F.R, Parts 171- 179, including all applicable requirements of the Hazardous Materials Transportation Act of 1975, and the regulations thereunder, including the requirements for Class 8—Corrosives.
  - d. In the event the Department determines that the process water transfer activities create or contribute to an imminent hazard, Mosaic shall cease or modify such activities pursuant to any action taken by the Department to abate or substantially reduce any imminent hazard in accordance with sections 403.4154 or 403.726, F.S.

#### **B. Phase III Stack Expansion Construction Requirements**

1. The permittee shall complete the construction of the Subsurface Activity Early Detection System (SAEDS) consisting of; a) foundation drain system, b) vibrating wire piezometer system and, c) the geophone sensors for the passive seismic monitoring system, in accordance with design specifications submitted in the Application File for PA Project No. FL0036421-022-IW1S/RA, and hereby approved under the permit, for each Phase III operable section prior to placement of gypsum within the respective Phase III East and Phase III West sections.
2. The permittee shall construct the Phase III stack expansion area in accordance with the design specifications of rule 62-673.400, F.A.C., as submitted in the Application File for PA Project No. FL0036421-022-IW1S/RA, and hereby approved under the permit.

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Construction activities for the Phase III stack expansion area shall proceed in accordance with the provisions of Specific Condition VI.1 (Table 12), items 10 through 19. Construction of the Phase III East section may be further subdivided into a north and south section using the Alternative Liner and Drain System, as detailed in the construction drawings submitted by the permittee on May 28, 2021, entitled "Alternative Liner and Drain System Construction Drawings for Subdividing Phase III East", prepared by Ardaman & Associates, Inc., and as shown on Attachment G.

### **C. Recordkeeping Requirements**

1. The permittee shall maintain the following records and make them available for inspection on the site of the permitted facility.
  - a. Records of all compliance monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, including, if applicable, a copy of the laboratory certification showing the certification number of the laboratory, for at least three years from the date the sample or measurement was taken;
  - b. Copies of all reports required by the permit for at least three years from the date the report was prepared;
  - c. Records of all data, including reports and documents, used to complete the application for the permit for at least three years from the date the application was filed;
  - d. A copy of the current permit;
  - e. A copy of any required record drawings; and
  - f. Copies of the logs and schedules showing plant operations and equipment maintenance for three years from the date of the logs or schedules.

*[Rule 62-620.350, F.A.C.]*

2. Upon commencement of operation of the process water transfer station per Condition V.A.18 above, the permittee shall maintain daily records of the quantity of materials transported from the process water transfer station.

## **VI. SCHEDULES**

1. The following improvement actions shall be completed according to the following schedule. The Best Management Practices/Pollution Prevention (BMP3) Plan shall be prepared and implemented in accordance with Part VII of this permit.

**TABLE 12**

Action Item		Scheduled Completion Date
1	Continue implementing the existing BMP3 Plan	Effective date of permit
2	BMP3 Progress/Update Reports	Effective date of permit plus 1 year and continuing annually



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Action Item		Scheduled Completion Date
3	Submit Annual Third-Party Dam Inspection Report (Annual Dam Report), in compliance with Rule 62-672, F.A.C.	April 30 <sup>th</sup> Following the Reporting Year (see VI.3. below)
4	Submit Average Height of Stack	April 30 <sup>th</sup> with the Annual Dam Report (see VI.3. below)
5	Submit Aerial Photograph	April 30 <sup>th</sup> with the Annual Dam Report (see VI.2. below)
6	Submit piezometer data and a report of the cut-off wall performance	April 30 <sup>th</sup> and October 31 <sup>st</sup> (see VI.4. below)
7	Submit update of extent of groundwater zone of capture	Annually (see VI.5 below)
8	Annual report monitoring of A-11 and implementation of follow-up activities recommended in the Final A-11 Plan of Action (POA) report.	Annually, to be submitted by April 30 <sup>th</sup> following the reporting year (see VI.6 below)
9	Submit evaluation of the performance of the NPDES treatment/conveyance system	Effective date of permit plus 1 year and continuing annually (See VI.7, below)
10	Stabilization of features for ground improvements within Phase III East	See Conditions VI.8, VI.9, and VI.11
11	Stabilization of features for ground improvements within Phase III West	See Condition VI.8, VI.10, and VI.11
12	Completion reports for stabilization of features for ground improvements within Phase III East	See Condition VI.9.a and VI.9.b.ii
13	Completion reports for stabilization of features for ground improvements within Phase III West	See Condition VI.10.e
14	Address abandonment or grouting activities related to former sealing well KS-16	See Condition VI.12
15	Construction of Phase III East monitoring wells	See Condition VI.13
16	Construction of Phase III West monitoring wells	See Condition VI.14
17	Operation of Phase III East	See Condition VI.16
18	Operation of Phase III West	See Condition VI.17
19	Submit Subsurface Activity Early Detection System (SAEDS) Report	Within 60 days of the effective date of the permit. See Condition VI.15
20	Submit an updated request for an Emergency Diversion Impoundment designation for temporary use if needed in accordance with Rule 62-672.870(3), F.A.C., including identification of	See Condition VI.20

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Action Item	Scheduled Completion Date
temporary storage volumes and provisions for its use for emergency process water management from the expanded South Phosphogypsum Stack.	

2. The permittee shall have an aerial photograph of the complete phosphogypsum stack system, including process water impoundments and conveyance systems, taken annually during the months of January or February, for submittal to the Department in the Annual Dam Report.
3. The permittee shall report to the Department annually the average height above grade (feet) and elevation (feet NGVD) of the phosphogypsum stack. These measurements shall be determined between January 15th and February 28th of each year and reported in the Annual Dam Report.
4. The permittee shall submit to the Department twice per year, in April and October, the results of the piezometer monitoring for piezometers: P-EA-S1U, P-EA-S1D, P-EA-I1U, and P-EA-I1D at station 30+00 and a report on the effective performance of the expansion stack cut-off wall. The permittee shall submit the piezometer data and report to the Department at the address in Item I.E.4. above.
5. The permittee shall submit annually to the Department for review by the Department, in consultation with the State Geologist and other Department engineering and geology professionals, a report demonstrating that the areas of potentially impacted groundwater in the Floridan aquifer, associated with past sinkholes, are contained within the New Wales production wells' zone of capture. Submittal from the current year should be compared with the previous years and trends discussed. If the submittal satisfies one or more reporting requirements stipulated elsewhere [such as in any open consent order(s)], the submittal shall make such reference. Maps of the locations of production wells at the facility are shown in **Attachment B**.
6. On March 15, 2019, the Department approved the 2017 Annual Report for clay settling area (CSA) A-11 (dated April 26, 2018), and associated file information (Northwest Drain Completion Report dated June 8, 2018, and permittee's November 8, 2018 response to Department's August 16, 2018 request for additional information). On an annual basis, by April 30<sup>th</sup> following the reporting year, the permittee shall submit a report documenting the following information for clay settling area (CSA) A-11:
  - a. An evaluation of the performance of the Northwest Drain along with supporting monitoring data. Mosaic shall continue to monitor and maintain the functionality of the piezometers associated with the A-11 Plan of Action (POA; dated December 19, 2013, with addendum dated May 1, 2014, approved by the Department May 14, 2014).
  - b. Status of installation of supplemental side slope drains on the closed North Gypsum Stack.

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- c. An evaluation of surface water quality at the monitoring stations in George Allen Branch, associated with this permit and with the A-11 POA, along with the supporting monitoring data.
7. On a quarterly basis, the permittee shall evaluate monitoring data collected at Internal Outfall I-006 along with discharge data at Outfall D-006 to identify trends, if any, that may necessitate the implementation of additional measures to maintain and enhance effective routing, and enhance vegetative uptake and treatment performance of the NPDES treatment/conveyance system, to ensure that the discharge at Outfall D-006 continues to maintain compliance with the provisions of the permit. Results of the evaluation, including recommendations for proposed actions, if deemed necessary, shall be summarized in an annual report submitted to the Department for review.
8. The geophysical investigation of the site identified four areas that contain anomalous features that need to be remediated for stabilizing the Phase III extension area, before inclusion within the gypsum stack footprint. The Areas are identified as: 1) Area III-2, 2) Feature BH-11 (also referred to as Area 4), 3) Feature DT-8A, and 4) Combined features BH-1, DT-18, and DT-22. Successful remediation of each area needing ground improvements, shall comply with the stabilization plans required in Conditions VI.9, VI.10, and, if applicable, VI.11, and shall be in accordance with the design criteria in PA File No. FL0036421-022-IW1S/RA. Specifically, evaluating the satisfactory completion of engineering measures at a feature will be based on reducing differential settlement to levels compatible with HDPE liner and pipe; and shall include specifications for each of the following design criteria for the unconfined compression strength, hydraulic conductivity, and in-place density of improved ground areas, based on one or more of the following criteria:
  - a. An average unconfined compressive strength of the improved soils equal to or greater than 60 lb/in<sup>2</sup> (the strength of very stiff to hard clay);
  - b. An average hydraulic conductivity of the improved soils equal to or less than  $1.0 \times 10^{-6}$  cm/s; or
  - c. A hydraulic head-drop across the upper confining unit in the feature equal to or greater than 75 percent of the background hydraulic head drop for the feature.
9. Stabilization of features within Phase III East – Area III-2 and Area 4.
  - a. Area III-2: In a letter dated January 5, 2021, the Department acknowledged the permittee's planned implementation of the Area III-2 Stabilization Plan (also identified herein as Area III-2 Ground Improvement Plan). The Area III-2 Stabilization Plan was submitted by the permittee for review by the Department, in consultation with the State Geologist and other Department engineering and geology professionals, on November 10, 2020, and was found to be consistent with the hydrogeological and geotechnical site investigation activities associated with the application for the Phase III gypstack expansion, PA File No. FL0036421-022-IW1S/RA. Within 90 days of completion of implementation of the Area III-2 Stabilization Plan, the permittee shall submit for review by the Department, in consultation with the State Geologist and other Department engineering and geology professionals, a Ground Improvement Completion

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Report that details all the information necessary to demonstrate that implementation of the Area III-2 Stabilization Plan satisfies the requirements for engineering measures as described in Rule 62-701.410, F.A.C., and has achieved the design performance criteria specified in specific condition VI.8. above, and as specified in the November 10, 2020, plan. The report shall be prepared by, signed, and sealed by a third-party Professional Engineer or Professional Geologist, in accordance with Rules 62-620-310(4), 62-672, and 62-673, F.A.C. The permittee shall not commence phosphogypsum stacking operations in the Phase III East section without receiving written acknowledgement from the Department that the report demonstrates that the design performance criteria for the Area III-2 Ground Improvement Plan has been achieved.

- b. Area 4 (includes feature BH-11 and its associated boreholes): This feature is located along the north perimeter of Phase III East. In a letter dated May 12, 2021, the Department acknowledged the permittee's planned implementation of the Area 4 Stabilization Plan, which includes Feature BH-11 and its associated boreholes. The Area 4 Stabilization Plan was submitted by the permittee for review by the Department, in consultation with the State Geologist and other Department engineering and geology professionals, on March 31, 2021, and was found to be consistent with the hydrogeological and geotechnical site investigation activities associated with the application for the Phase III gypstack expansion, PA File No. FL0036421-022-IW1S/RA. Within 90 days of completion of implementation of the Area 4 Stabilization Plan, the permittee shall submit for review by the Department, in consultation with the State Geologist and other Department engineering and geology professionals, a Ground Improvement Completion Report that details all the information necessary to demonstrate that implementation of the Area 4 Stabilization Plan satisfies the requirements for engineering measures as described in Rule 62-701.410, F.A.C., and has achieved the design performance criteria specified in specific condition VI.8. above, and as specified in the March 31, 2021 plan. The report shall be prepared by, signed, and sealed by a third-party Professional Engineer or Professional Geologist, in accordance with Rules 62-620-310(4), 62-672, and 62-673, F.A.C. The permittee shall not commence phosphogypsum stacking operations in the Phase III East section without receiving written acknowledgement from the Department that the report demonstrates that the design performance criteria for the Area 4 Ground Improvement Plan has been achieved.
10. Stabilization of features within Phase III West: The permittee shall submit, for Department review and approval by the Department, in consultation with the State Geologist and other Department engineering and geology professionals, a stabilization plan for each of the following areas or features identified in the NPDES permit application for the Phase III gypstack expansion, PA File No. FL0036421-022-IW1S/RA.
- a. Feature DT-8A: This feature is located near the southeast portion of Phase III West.
  - b. Combined features BH-1, DT-18, and DT-22, located near the northwest portion of Phase III West: In the application file for PA File No. FL0036421-022-IW1S/RA, the permittee indicated that because of the proximity of these three features to each other, the remediation for the three features would be combined.

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- c. Each plan shall be prepared by, signed, and sealed by a third-party Professional Engineer or Professional Geologist, in accordance with Rules 62-620-310(4), 62-672, and 62-673, F.A.C.
  - d. The permittee shall commence stabilization procedures upon receipt of written Department approval of the plan.
  - e. Completion of Phase III West stabilization operations: Within 90 days of completion of implementation of any approved Phase III West Ground Improvement Plans for the areas identified in this Condition, the permittee shall submit a Ground Improvement Completion Report, for review by the Department, in consultation with the State Geologist and other Department engineering and geology professionals, that details all the information necessary to demonstrate that implementation of the Area III West Stabilization Plan for each area, satisfies the requirements for engineering measures as described in Rule 62-701.410, F.A.C., and has achieved the design performance criteria noted in specific condition VI.8. above, and as outlined in the application file for PA File No. FL0036421-022-IW1S/RA and in Condition VI.8 above. The report shall be prepared by, signed, and sealed by a third-party Professional Engineer or Professional Geologist, in accordance with Rules 62-620-310(4), 62-672, and 62-673, F.A.C. The permittee shall not commence phosphogypsum stacking operations in the Phase III West section without receiving written acknowledgement from the Department that the report demonstrates that the design performance criteria for Phase III West Ground Improvement Plans for feature DT-8A, and for combined features BH-1, DT-18, and DT-22, has been achieved.
11. Discovery of new features in Phase III East and Phase III West: As work proceeds to prepare Phase III East and Phase III West for gypstack construction, if the permittee or the permittee's third-party engineer discover any new subsurface features that may need further exploration to determine if stabilization is needed, the permittee shall notify the Department within 14 days of such a discovery, and conduct the following activities:
- a. Submit a plan, for Department review and approval by the Department, in consultation with the State Geologist and other Department engineering and geology professionals, to address any additional exploration needed.
  - b. Following completion of exploration, should it be determined that stabilization of any new feature(s) is needed, the permittee shall submit, for Department review and approval, in consultation with the State Geologist and other Department engineering and geology professionals, a stabilization plan for any such feature(s). The plan shall be prepared by, signed, and sealed by a third-party Professional Engineer or Professional Geologist, in accordance with Rules 62-620-310(4), 62-672, and 62-673, F.A.C. The permittee shall commence stabilization procedures upon receipt of written Department approval of the plan.
  - c. Upon completion of stabilization of each new feature, the permittee shall provide a report, for Department review and approval, in consultation with the State Geologist and other Department engineering and geology professionals, within 90 days of completion stabilization work, that details all information to satisfy the requirements for

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engineering measures as described in Rule 62-701.410, F.A.C., and has achieved the design performance criteria noted in specific condition VI.8. above.

- d. All plans and reports shall be signed and sealed by a third-party Professional Engineer or Professional Geologist, in accordance with Rules 62-620-310(4), 62-672, and 62-673, F.A.C. The permittee shall not commence phosphogypsum stacking operations in any section of the Phase III expansion area without receiving written acknowledgement from the Department that approved design performance criteria for any Department approved ground improvement plan for any such potentially future discovered feature has been achieved.
12. Prior Sealing Well KS-16: As described in the application file for PA File No. FL0036421-022-IW1S/RA, the permittee shall attempt to locate prior sealing well KS-16. The excavation for implementation of engineering measures at the suspected location of prior sealing well KS-16 shall be progressively advanced from a surface elevation of about 140 feet (NGVD) to a target bottom elevation of about 92 feet (NGVD) and corresponding depth of about 48 feet. The permittee shall conduct the following activities, as necessary.
- a. If the KS-16 well casing is encountered prior to reaching the bottom elevation, excavation may be terminated, and a drill rig shall be used to clear the well bore to the original depth and then grout and abandon the well in accordance with State Rules and the excavation area shall be stabilized appropriately for construction of the Phase III gypstack extension; or
  - b. If the KS-16 well casing is not found, the excavation will terminate at the target bottom elevation of about 92 feet, NGVD, and the bottom of the excavation sealed with a minimum 3-foot-thick concrete cap with the base of the cap resting upon either calcareous sandy clays to clayey sands within the undifferentiated Peace River Formation or phosphatic sandy clays to clayey sands in the unmined base of the Bone Valley Member. The bottom of the excavation shall be compacted with a heavy roller to provide a stable base for placement of the concrete cap. Loose/soft soils that cannot be satisfactorily compacted shall be excavated and either replaced with compacted clayey sand similar to the surrounding soils or the base of the concrete cap shall be locally lowered to the surface of the underlying soil that provides a stable base. Cast overburden comprised of sand to silty sand extending below Elevation 92 feet (NGVD), if locally encountered, shall similarly be excavated and either replaced with compacted clayey sand similar to the surrounding soils or the base of the concrete cap shall be locally lowered to the base of the cast overburden. Conversely, the excavation may be terminated and the base of the concrete cap placed at a higher elevation if limestone or hard carbonate clay with Standard Penetration Test (SPT) resistance greater than 30 blows/foot is locally encountered above Elevation 92 feet (NGVD). Accordingly, the actual elevation of the base of the excavation may vary depending on the conditions encountered.
  - c. Upon completion of either VI.12.a or VI.12.b, the permittee shall submit a report, for Department review and approval, in consultation with the State Geologist and other Department engineering and geology professionals, detailing the efforts to address KS-16. The report shall be signed and sealed by a third-party Professional Engineer or

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Professional Geologist, in accordance with Rules 62-620-310(4), 62-672, and 62-673, F.A.C.

13. Construction of Phase III East monitoring wells: Within 30 days of completion of construction and development of the monitoring wells associated with Phase III East (MWI-50, MWI-51, MWC-53, MWI-55, MWI-56, MWC-58, and MWC-59), the permittee shall submit a notification to the Department confirming that the wells are complete, developed, and operable.
14. Construction of Phase III West monitoring wells: Within 30 days of completion of construction and development of the monitoring wells associated with Phase III West (MWI-48, MWI-49, MWC-52, MWI-54, MWC-57, and MWC-60), the permittee shall submit a notification to the Department confirming that the wells are complete, developed, and operable.
15. Subsurface Activity Early Detection System
  - a. The permittee shall prepare and submit a Subsurface Activity Early Detection System (SAEDS) Report format for review by the Department, in consultation with the State Geologist and other Department engineering and geology professionals, within 60 days of the effective date of this permit. The SAEDS Report shall be prepared to include, at a minimum, all the components identified in Attachment N. The SAEDS Report shall also include a draft format for reporting the data, data analysis, and recommendations for follow up actions based upon an evaluation of the collected SAEDS data and recommendations from a third-party engineer, as well as any other relevant supporting data generated in the implementation of the provisions of this permit. The permittee shall not commence phosphogypsum stacking operations in any portion of the Phase III area without receiving written authorization of a SAEDS Report format from the Department.
  - b. Following Department approval of the SAEDS Report format as required above, the permittee shall submit the SAEDS Report quarterly for review by the Department, in consultation with the State Geologist and other Department engineering and geology professionals, by the 28th day of the month following each full or partial calendar quarterly reporting period, in accordance with specific condition I.E.3. above.
  - c. If the permittee has identified information generated by the SAEDS that indicates the presence of a subsurface condition that has the potential to adversely affect the integrity of the phosphogypsum stack, or the functionality of any of component of the SAEDS, the permittee shall immediately, and no later than 24 hours following confirmation by a competent technical representative (third party engineer) of the existence of such circumstance, notify the Department of the observed subsurface information, and any recommendations for follow-up actions. This notification shall constitute a non-routine report. Non-routine reports shall be followed by a written report within 7 days of the notification provided above. The written submission shall contain a description of the information of concern, provide additional information gathered since the initial reporting of the information of concern, and outline any recommended actions to continue monitoring, further investigate potential subsurface conditions, or other

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actions that may be planned or needed to maintain the integrity of the phosphogypsum stack or the functionality of any of component of the SAEDS.

16. Operation of Phase III East. Upon receipt of Department approval acknowledging completion of all stabilization activities identified under specific conditions VI.8 and VI.9, and VI.11 if applicable, the permittee shall complete the following requirements prior to placing the Phase III East section into operation for phosphogypsum stacking operations:

- a. The permittee shall complete construction of the foundation, liner, and associated works for the Phase III East gypstack extension, for the entire Phase III East area or the smaller subdivided north and south sections of the Phase III East area using the Alternative Liner and Drain System (See Condition V.B.2 and Attachment G), as outlined in the permit application file for PA File No. FL0036421-022-IW1S/RA; and following completion of construction of the Phase III East components outlined in Permit Conditions V.B, VI.13, VI.15, and VI.20.
- b. The permittee shall provide a notification to the Department for Department review and approval, in consultation with the State Geologist and other Department engineering and geology professionals, confirming that each section in Phase III East is ready for operation. The notification shall include a "Certification of Completion of Construction" [DEP Form 62-620.910(12)] signed and sealed by the engineer of record or other engineer registered in the state of Florida, in accordance with Rule 62-620.310(4), and Chapters 62-672 and 62-673, F.A.C., which certifies that the construction was completed in accordance with all applicable laws and that the work and materials were in compliance with the permit and designs approved for its intended use at that specific site.
- c. During construction the permittee shall document completion and acceptance of subgrade construction prior to liner deployment, and completion and inspection of lined areas by the third-party engineer. Documentation of inspections and satisfactory completion of subgrade and lined areas, in accordance with the plans provided in the permit application file for PA File No. FL0036421-022-IW1S/RA and the engineer of record's final plans and specifications for this work, shall be included with the Certification of Completion of Construction for each Phase III East section. Completion of the remaining final record drawings, including final as-built drawings, shall be submitted as outlined in Specific Condition VII.C.3.
- d. The permittee shall not place any Phase III East section into operation until receipt of written approval by the Department.

17. Operation of Phase III West: Upon receipt of Department approval acknowledging satisfactory completion of all stabilization activities identified under specific conditions VI.8 and VI.10, and VI.11 if applicable, the Permittee shall complete the following requirements prior to placing the Phase III West section into operation for phosphogypsum stacking operations:

- a. The permittee shall complete construction of the foundation, liner, and associated works for the Phase III West gypstack extension as outlined in the permit application file for PA File No. FL0036421-022-IW1S/RA; and following completion of construction of



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the Phase III West components outlined in Permit Conditions V.B, VI.12, VI.14, VI.15, and VI.20,

- b. The permittee shall provide a notification to the Department for Department review and approval, in consultation with the State Geologist and other Department engineering and geology professionals, confirming that Phase III West is ready for operation. The notification shall include a "Certification of Completion of Construction" [DEP Form 62-620.910(12)] signed and sealed by the engineer of record or other engineer registered in the state of Florida, in accordance with Rule 62-620.310(4), and Chapters 62-672 and 62-673, F.A.C., which certifies that the construction was completed in accordance all applicable laws and that the work and materials were in compliance with the permit and designs approved for its intended use at that specific site.
  - c. During construction the permittee shall document completion and acceptance of subgrade prior to liner deployment, and completion and inspection of lined areas by the third-party engineer. Documentation of inspections and satisfactory completion of subgrade and lined areas, in accordance with the plans provide in the permit application file for PA File No. FL0036421-022-IW1S/RA and the engineer of record's final plans and specifications for this work, shall be included with the Certification of Completion of Construction for the Phase III West section.
  - d. The permittee shall not set Phase III West into operation until receipt of written approval by the Department.
18. The permittee shall notify the following organization immediately but no later than six hours following discovery of an event such as a spill, or dam release, which creates a potential threat to the water quality of the Alafia River upstream of an intake structure for a drinking water plant or reservoir:

**Tampa Bay Water**

**Phone: (813) 996-7009 [24-hr. notification]**

**Andrew Greenbaum, Operations Manager, e-mail:**

**[AGreenbaum@tampabaywater.org](mailto:AGreenbaum@tampabaywater.org)**

**Duvel Blake, Operations Manager, e-mail: [DBlake@tampabaywater.org](mailto:DBlake@tampabaywater.org)**

**Steve Fleischacker, Water Quality Services, e-mail:**

**[SFleischacker@tampabaywater.org](mailto:SFleischacker@tampabaywater.org)**

19. The permittee shall notify the Department and Tampa Bay Water (pursuant to the contact information in Condition VI.18 above) immediately upon discovery of any discharge resulting from a plant upset, onsite spill, release, or any other activity discharging to surface waters of the State not specifically authorized by a Department permit, order, or authorization. Upon discovery of any discharge to surface waters of State, the permittee shall immediately obtain samples from a location that is representative of the discharge to surface waters of the State and a separate location within the waters of the State immediately downstream from such a discharge. The samples shall be analyzed for all of the parameters specified in Table 13 below. The results of the analyses shall be immediately reported upon receipt to the Department as required in Condition I.E.4. above. Pursuant to Section

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403.077, F.S., the Permittee shall provide any required notice of a reportable pollution release.

**TABLE 13**

Parameter	Units	Parameter	Units	Parameter	Units
pH	su	Sulfate, Total (as SO <sub>4</sub> )	mg/L	Iron	µg/L
Temperature, Water	deg.C	Alpha, Gross Particle Activity	pCi/L	Lead	µg/L
Specific Conductance	µmhos/cm	Radium <sup>226</sup> + Radium <sup>228</sup> , Combined	pCi/L	Manganese	µg/L
Oxygen, Dissolved (DO)	mg/L	Hardness (as CaCO <sub>3</sub> )	mg/L	Molybdenum	µg/L
Turbidity	NTUs	Arsenic	µg/L	Nickel	µg/L
Phosphorus, Total (as P)	mg/L	Aluminum	µg/L	Selenium	µg/L
Phosphate, Ortho (as P)	mg/L	Antimony	µg/L	Silver	µg/L
Nitrogen, Total (as N)	mg/L	Barium	µg/L	Zinc	µg/L
Nitrogen, Ammonia, Total (as N)	mg/L	Cadmium	µg/L	Radon <sup>222</sup> , Total	pCi/L
Ammonia, Unionized (as NH <sub>3</sub> )	mg/L	Chromium	µg/L	Uranium, Total	pCi/L
Fluoride, Total (as F)	mg/L	Copper	µg/L		

20. Prior to the placement of any South Phosphogypsum Stack expansion area into operation for phosphogypsum stacking operations, the permittee shall submit an updated request for an Emergency Diversion Impoundment designation including updated emergency contingencies that need to be incorporated to ensure that process water can be safely and expeditiously transferred to the approved New Wales South Phosphogypsum Stack Emergency Diversion Impoundment (EDI), for future temporary use in case needed, in accordance with the provisions of Rule 62-672.870(3), F.A.C.
21. The permittee shall notify the Department's Division of Water Resource Management - Phosphate Management Program immediately following the discovery of any problems that may seriously hinder compliance with this permit. Notification to the Department shall be by phone at (813) 470-5913, or by e-mail at [DWRMIW.PM@dep.state.fl.us](mailto:DWRMIW.PM@dep.state.fl.us) if after working hours. Within forty-eight hours excluding weekends, the permittee shall submit to the Department a detailed written report describing the problem, remedial measures taken to assure compliance, and measures taken to prevent recurrence of the problem.
22. The permittee shall report all critical (having potential to significantly pollute surface or ground waters) spills of liquid or liquid-solid materials not confined to a building or similar containment structure to the Department's Division of Water Resource Management - Phosphate Management Program by phone at (813) 470-5913, or by e-mail at [DWRMIW.PM@dep.state.fl.us](mailto:DWRMIW.PM@dep.state.fl.us) if after working hours, immediately following discovery and submit a written report within forty-eight hours, excluding weekends, from the original notification. The written report shall include, but not be limited to, a detailed description of how the spill occurred, the name and chemical make-up (include any MSDS sheets) of the

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substance, the amount spilled, the time and date of the spill, the name and title of the person who first reported the spill, the area size of the spill and surface types (impervious, ground, water bodies, etc.) it impacted, the cleanup procedures taken and status of completion, and include a map or aerial photograph showing the extent and paths of the material flow. Pursuant to Section 403.077, F.S., the Permittee shall provide any required notice of a reportable pollution release.

23. The permittee shall notify the Department's Division of Water Resource Management - Phosphate Management Program a minimum of 30 days in advance of commencement of construction and/or operation of any significant improvements or maintenance to any outfall structures, wastewater conveyances, or treatment systems for this facility that would alter the quality of discharge.
24. The permittee is not authorized to discharge to waters of the state after the expiration date of this permit, unless:
  - a. The permittee has applied for renewal of this permit at least 180 days before the expiration date of this permit using the appropriate forms listed in Rule 62-620.910, F.A.C., and in the manner established in the Department of Environmental Protection Guide to Permitting Wastewater Facilities or Activities Under Chapter 62-620, F.A.C., including submittal of the appropriate processing fee set forth in Rule 62-4.050, F.A.C.; or
  - b. The permittee has made complete the application for renewal of this permit before the permit expiration date.

*[Rule 62-620.335(1)-(4), F.A.C.]*

## **VII. BEST MANAGEMENT PRACTICES/STORMWATER POLLUTION PREVENTION PLANS**

1. The permittee shall during the term of this permit operate the facility in accordance with the existing Best Management Practices/Pollution Prevention (BMP3) or in accordance with subsequent amendments to the Plan. The permittee shall also amend this Plan, to incorporate practices to achieve the objectives and specific requirements listed below. The permittee shall maintain the Plan at the facility and shall make the plan available to the Department upon request. The Plan shall be implemented in accordance with the schedule contained in Part VI of this permit. *[62-620.100(3)(m)]*
2. Through implementation of the Best Management Practices/Pollution Prevention (BMP3), the permittee shall prevent or minimize the generation and the potential for the release of pollutants from the facility to the waters of the State through normal operations and ancillary activities. *[62-620.100(3)(m)]*
3. The permittee shall develop and amend the BMP3 Plan consistent with the following objectives for the control of pollutants.
  - a. The number and quantity of pollutants and the toxicity of effluent generated, discharged or potentially discharged at the facility shall be minimized by the permittee

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to the extent feasible by managing each influent waste stream in the most appropriate manner.

- b. Under the BMP3 Plan, and any Standard Operating Procedures (SOPs) included in the Plan, the permittee shall ensure proper operation and maintenance of the treatment facility.
- c. The permittee shall establish specific objectives for the control of pollutants by conducting the following evaluations.
  - (1) Each facility component or system shall be examined for its waste minimization opportunities and its potential for causing a release of significant amounts of pollutants to waters of the United States due to equipment failure, improper operation, and natural phenomena such as rain or adverse weather, etc. The examination shall include all normal operations and ancillary activities including but not limited to material storage areas, plant site runoff, in-plant transfer, process and material handling areas, loading or unloading operations, spillage or leaks, sludge and waste disposal, or drainage from raw material storage, as applicable.
  - (2) Where experience indicates a reasonable potential for equipment failure (e.g., a tank overflow or leakage), natural condition (e.g., precipitation), or other circumstances to result in significant amounts of pollutants reaching surface waters, the program should include a prediction of the direction, rate of flow and total quantity of pollutants which could be discharged from the facility as a result of each condition or circumstance.

*[62-620.100(3)(m)]*

4. The BMP3 Plan shall be consistent with the objectives in Part 3 above and the general guidance contained in the publication entitled Guidance Manual for Developing Best Management Practices (BMPs) (USEPA, 1993) or any subsequent revisions to the guidance document. The BMP3 Plan shall:
  - a. Be documented in narrative form, shall include any necessary plot plans, drawings or maps, and shall be developed in accordance with good engineering practices. The BMP3 Plan shall be organized and written with the following structure:
    - (1) Name and location of the facility.
    - (2) Statement of BMP3 Plan policy.
    - (3) Structure, functions, and procedures of the BMP3 Plan committee.
    - (4) Specific management practices and standard operating procedures to achieve the above objectives, including, but not limited to, the following:
      - (a) modification of equipment, facilities, technology, processes, and procedures,
      - (b) reformulation or redesign of products,
      - (c) substitution of materials, and
      - (d) improvement in management, inventory control, materials handling or general operational phases of the facility.
    - (5) Risk identification and assessment.
    - (6) Reporting of BMP3 Plan incidents.
    - (7) Materials compatibility.
    - (8) Good housekeeping.
    - (9) Preventative maintenance.
    - (10) Inspections and records.

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- (11) Security.
  - (12) Employee training.
  - (13) Description of a waste minimization assessment performed in accordance with the conditions outlined in condition b. below, results of the assessment, and a schedule for implementation of specific waste reduction practices.
- b. Include a waste minimization assessment (WMA) for this facility to determine actions that could be taken to reduce waste loadings and chemical losses to all wastewater and/or storm water streams as described in Part VII.5. of this permit. It shall address both short term and long term opportunities for minimizing waste generation at this facility, utilizing at a minimum, applicable criteria selected from Part VII.5.: Required Components of a Waste Minimization Assessment, particularly for high volume and/or high toxicity components of wastewater and storm water streams. Initially, the WMA should focus primarily on actions that could be implemented quickly, thereby realizing tangible benefits to surface water quality. Long term goals and actions pertaining to waste reduction shall include investigation of the feasibility of eliminating toxic chemical use, instituting process changes, raw material replacements, etc.

The permittee shall implement each waste reduction practice recommended by the WMA as soon as practicable. Any waste reduction practices which are identified but will not be implemented shall be described in the required pollution prevention plan summary or progress/update reports, along with the factors inhibiting their adoption. Any waste reduction practices which cannot be implemented immediately shall be described in the pollution prevention plan and included in a schedule of implementation.

The permit issuing authority does not herein establish a time limit for completion of the WMA; the study may be conducted throughout the term of this permit. However, a suggested target completion date is six months after the effective date of the permit, so that the WMA results and recommended waste reduction practices may be incorporated into the BMP3 plan. Continual studies toward minimizing waste are encouraged.

Practices which reduce pollutant loading in wastewater or storm water discharges with a consequent increase in solid hazardous waste generation, decrease in air quality, or adverse affect to groundwater shall not be considered waste reduction for the purposes of this assessment.

- c. Establish specific best management practices to meet the objectives identified in Part 3 of this section, addressing each component or system capable of generating or causing a release of significant amounts of pollutants, and identifying specific preventative or remedial measures to be implemented.

*[62-620.100(3)(m)]*

#### 5. Required Components of a Waste Minimization Assessment

- a. The WMA shall include an overall plant water balance, as well as internal water balances, as necessary. This information shall be used to determine any opportunities for water conservation or reuse/recycling and to determine if and where leakages might occur.
- b. A materials and risk assessment shall be developed and shall include the following:

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- (1) Identification of the types and quantities of materials used or manufactured (including by products produced) at the facility;
  - (2) Identification of the location and types of materials management activities which occur at the facility;
  - (3) An evaluation of the following aspects of materials compatibility: containment and storage practices for chemicals, container compatibility, chemical mixing procedures; potential mixing or compatibility problems; and specific prohibitions regarding mixing of chemicals;
  - (4) Technical information on human health and ecological effects of toxic or hazardous chemicals presently used or manufactured (including by products produced) or planned for future use or production; and
  - (5) Analyses of chemical use and waste generation, including overall plant material balances and as necessary, internal process balances, for all pollutants. (When actual measurements of the quantity of a chemical entering a wastewater or storm water stream are not readily available, reasonable estimates should be made based on best engineering judgment.) The analyses shall address reasons for using particular chemicals, and measures or estimates of the actual and potential chemical discharges via wastewater, wastewater sludge, storm water, air, solid waste or hazardous waste media.
- c. The WMA shall include, at a minimum, the following means of reducing pollutant discharges in wastewater streams or of otherwise minimizing wastes:
- (1) Process related source reduction measures, including any or all of the following, as appropriate:
    - (a) Production process changes;
    - (b) Improved process controls;
    - (c) Reduction of off spec materials;
    - (d) Reduction in use of toxic or hazardous materials;
    - (e) Chemical modifications and/or material purification;
    - (f) Chemical substitution employing non toxic or less toxic alternatives; and
    - (g) Equipment upgrades or modifications or changes in equipment use.
  - (2) Housekeeping/operational changes, including waste stream segregation, inventory control, spill and leak prevention, equipment maintenance; and employee training in areas of pollution prevention, good housekeeping, and spill prevention and response;
  - (3) In process recycling, on site recycling and/or off site recycling of materials;
  - (4) Following all source reduction and recycling practices, wastewater treatment process changes, including the use of new or improved treatment methods, such that treatment by products are less toxic to aquatic or human life; and
  - (5) Other means as agreed upon by the permit issuing authority and the permittee.
- d. For storm water discharges and instances where storm water enters the wastewater treatment/disposal system or is otherwise commingled with wastewater, the WMA shall evaluate the following potential sources of storm water contamination, at a minimum:
- (1) Loading, unloading and transfer areas for dry bulk materials or liquids;
  - (2) Outdoor storage of raw materials or products;
  - (3) Outdoor manufacturing or processing activities;
  - (4) Dust or particulate generating processes; and

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(5) On site waste and/or sludge disposal practices.

The likelihood of storm water contact in these areas and the potential for spills from these areas shall be considered in the evaluation. The history of significant leaks or spills of toxic or hazardous pollutants shall also be considered. Recommendations for changes to current practices which would reduce the potential for storm water contamination from these areas shall be made, as necessary.

*[62-620.100(3)(m)]*

6. The BMP3 Plan shall be signed by the permittee or their duly authorized representative in accordance with Rule 62-620.305(2)(a) and (b), F.A.C. The Plan shall be reviewed by appropriate facility staff and management. Where required by Chapter 471 (P.E.) or Chapter 492 (P.G.) Florida Statutes, applicable portions of the Plan shall be signed and sealed by the professional(s) who prepared them.

The BMP3 Plan shall contain a written statement from corporate or facility management indicating management's commitment to the goals of the BMP3 Plan program. Such statements shall be publicized or made known to all facility employees. Management shall also provide training for the individuals responsible for implementing the BMP3 Plan. *[62-620.100(3)(m)]*

7. Submission of Plan Summary and Progress/Update Reports

- a. A summary of the BMP3 Plan shall be developed and maintained at the facility and made available to the Department upon request. The summary should include the following: a brief description of the Plan, its implementation process, schedules for implementing identified waste reduction practices, and a list of all waste reduction practices being employed at the facility. The results of WMA studies already completed as well as any that are scheduled or ongoing shall be discussed.
- b. Progress/update reports documenting implementation of the Plan shall be maintained at the facility and made available to the Department upon request. The reports shall discuss whether or not implementation schedules were met and revise any schedules, as necessary. The Plan shall also be updated as necessary and the attainment or progress made toward specific pollutant reduction targets documented. Results of any ongoing WMA studies as well as any additional schedules for implementation of waste reduction practices shall be included.
- c. A timetable for the various BMP3 Plan requirements is included in the schedule contained in Part VI. of this permit. The permittee shall maintain the Plan and subsequent reports at the facility and shall make the plan available to the Department upon request.

*[62-620.100(3)(m)]*

8. The permittee shall maintain a copy of the BMP3 Plan at the facility and shall make the plan available to the Department upon request. All offices of the permittee which are required to maintain a copy of the NPDES permit shall also maintain a copy of the BMP3 Plan. *[62-620.100(3)(m)]*

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9. If following review by the Department, the BMP3 Plan is determined insufficient, the permittee will be notified that the Plan does not meet one or more of the minimum requirements of this Part. Upon such notification from the Department, the permittee shall amend the plan and shall submit to the Department a written certification that the requested changes have been made. Unless otherwise provided by the Department, the permittee shall have 30 days after such notification to make the changes necessary.

The permittee shall amend the BMP3 Plan whenever there is a change in the facility or in the operation of the facility which materially increases the generation of pollutants or their release or potential release to the receiving waters. The permittee shall also amend the Plan, as appropriate, when plant operations covered by the BMP3 Plan change. Any such changes to the Plan shall be consistent with the objectives and specific requirements listed above. All changes in the BMP3 Plan shall be reported to the Department in writing. [62-620.100(3)(m)]

10. At any time, if the BMP3 Plan proves to be ineffective in achieving the general objective of preventing and minimizing the generation of pollutants and their release and potential release to the receiving waters and/or the specific requirements above, the permit and/or the BMP3 Plan shall be subject to modification to incorporate revised BMP3 Plan requirements. [62-620.100(3)(m)]

## **VIII. OTHER SPECIFIC CONDITIONS**

### **A. General Specific Conditions**

1. The permittee shall provide verbal notice to the Department's Division of Water Resource Management, Phosphate Management Office as soon as practical after discovery of a sinkhole or other karst feature within an area for the management or application of wastewater, or wastewater sludges. The Permittee shall immediately implement measures appropriate to control the entry of contaminants, and shall detail these measures to the Department's Division of Water Resource Management, Phosphate Management Office in a written report within 7 days of the sinkhole discovery. [Rule 62-620.320(6), F.A.C.] Pursuant to Section 403.077, F.S., the Permittee shall provide any required notice of a reportable pollution release.
2. Existing manufacturing, commercial, mining, and silvicultural wastewater facilities or activities that discharge into surface waters shall notify the Department as soon as they know or have reason to believe:
  - a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following levels;
    - (1) One hundred micrograms per liter,
    - (2) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2, 4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter for antimony, or
    - (3) Five times the maximum concentration value reported for that pollutant in the permit application; or



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- b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following levels;
  - (1) Five hundred micrograms per liter,
  - (2) One milligram per liter for antimony, or
  - (3) Ten times the maximum concentration value reported for that pollutant in the permit application.

*[Rule 62-620.625(1), F.A.C.]*

**B. Specific Conditions Applicable to All Permits**

1. Drawings, plans, documents or specifications submitted by the permittee, not attached hereto, but retained on file at the Department's Division of Water Resource Management - Phosphate Management Program Office, are made a part hereof.
2. Where required by Chapter 471 or Chapter 492, F.S., applicable portions of reports to be submitted under this permit shall be signed and sealed by a professional engineer or a professional geologist, as appropriate.  
*[Rule 62-620.310(4), F.A.C.]*
3. This permit satisfies the Department's Division of Water Resource Management - Phosphate Management Program permitting requirements only and does not authorize any construction, modification and/or operation of this facility prior to obtaining all other permits required by local, state, or federal agencies.
4. If significant historical or archaeological artifacts are discovered at any time within the project site, the permittee shall immediately notify the District Office and the Bureau of Historic Preservation, Division of Archives, History and Records Management, R.A. Gray Building, Tallahassee, Florida 32301.

**C. Specific Conditions Related to Construction**

1. The permittee shall not perform any construction activity which discharges wastes into State or National waters, or which will reasonably be expected to be a source of water pollution without prior Department approval.
2. Within thirty days from completion of construction of the Surface Water Management System modifications or any other Department approved project, the permittee shall submit to the Department's Division of Water Resource Management - Phosphate Management Program a completed "Certification of Completion of Construction" [DEP Form 62-620.910(12)] signed and sealed by the engineer of record or other engineer registered in the state of Florida. *[Rule 62-620.410(7), F.A.C.]*
3. Record drawings shall be prepared and made available to the Department's Division of Water Resource Management - Phosphate Management Program in accordance with Section 62-620.410(6), F.A.C., within six months of a Certification of Completion of Construction submittal. The "record drawings" shall show all construction details and any deviations from the approved pre-construction design. All deviations not previously reported to the Department shall be described in detail and the reasons therefore enumerated.

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Notification shall be made using DEP Form 62-620.910(13). The record drawings shall be submitted electronically on compact disk (CD), or other acceptable electronic media, in Adobe Acrobat (pdf) format.

**D. Reopener Clause**

1. The permit shall be revised, or alternatively, revoked and reissued in accordance with the provisions contained in Rules 62-620.325 and 62-620.345 F.A.C., if applicable. Revisions pursuant to Rule 62-625.325, F.A.C., by the Department for good cause, may include but not limited to: changes in the environment or surrounding conditions that requires a revision to conform to applicable water quality standards; adoption or revision of statutes, rules, or standards; or new information that is received by the Department that was not available at the time of permit issuance. This permit may also be reopened and revised to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2) and 307(a)(2) of the Clean Water Act (the Act), as amended, if the effluent standards, limitations, or water quality standards so issued or approved:
  - a. Contains different conditions or is otherwise more stringent than any condition in the permit/or;
  - b. Controls any pollutant not addressed in the permit.

The permit as revised or reissued under this paragraph shall contain any other requirements then applicable.

2. The permit may be reopened to adjust effluent limitations or monitoring requirements should future Water Quality Based Effluent Limitation determinations, water quality studies, DEP approved changes in water quality standards, or other information show a need for a different limitation or monitoring requirement.
3. The Department may develop a Total Maximum Daily Load (TMDL) during the life of the permit. Once a TMDL has been established and adopted by rule, the Department shall revise this permit to incorporate the final findings of the TMDL.

**E. Specific Conditions Related to Financial Responsibility Requirements**

1. The permittee shall comply with all of the applicable financial responsibility requirements of Rule 62-673.640, F.A.C., and the applicable conditions of 40 CFR 264, Subpart H.
2. Any transfer of this permit during the effective term shall require the party or parties obtaining a transfer to demonstrate that all the financial responsibility requirements be met prior to transfer, if necessary. *[Rule 62-620.340(3), F.A.C.]*
3. The permittee shall notify the Department's Division of Water Resource Management - Phosphate Management Program, by certified mail, of commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the permittee as debtor, within ten (10) days after the commencement of the proceeding. *[40 CFR 264.148(a)]*

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4. Within 60 days prior to placing any portion of the Phase III expansion area into operation, the permittee shall provide an updated closure cost estimate for the South Phosphogypsum Stack system to the Department for review and approval, in accordance with the provisions of Rule 62-673.640, F.A.C. Prior to placing any portion of the Phase III expansion area into operation, and annually thereafter in conjunction with the proof of financial assurance submittal requirements of Rule 62-673.640, F.A.C., the permittee also shall provide proof of financial assurance for the combined cost of implementation of the Contingency Plan required in accordance with Rule 62-672.850, F.A.C., and the cost of closure of the expanded system using one or more of the approved financial assurance mechanisms in Rule 62-673.640(4), F.A.C.
5. In addition to the requirements of Rule 62-673.640, F.A.C., the permittee shall provide to the Department the annual updates on the additional financial assurance provisions and reporting requirements that are established pursuant to Civil Action No. 8:15-cv-02286-JDW-TBM (RCRA Consent Decree), including the annual statement on the amount of cash deposits, other addition financial assurance mechanisms, and additional audited financial information that are required thereunder.

#### **IX. DOMESTIC WASTE**

1. The permittee shall ensure that a Class D or higher operator perform at a minimum, three non-consecutive visits per week for 1.5 hours per week at the domestic wastewater treatment plant in accordance with Chapter 62-699, F.A.C.
2. The discharge from the chlorine contact chamber shall be sampled in accordance with Chapter 62-601, F.A.C. and shall meet the following limitations in **Table 14**, below:

**TABLE 14**

<b>PARAMETER</b>	<b>Units</b>	<b>MINIMUM</b>	<b>MAXIMUM</b>	<b>SAMPLE TYPE</b>	<b>SAMPLE FREQUENCY</b>
Flow	MGD	Report	Report	Instantaneous	1/Day, 3/Wk
pH	Std. Units	Report	Report	Grab	1/Day, 3/Wk
Total Suspended Solids	MG/L	Report	Report	Grab	1/Quarter

3. The results of the sampling required in Item IX.2 above shall be maintained and filed on-site and be made available to Department personnel upon request.
4. The permittee, or supplier, or his representative or agent shall perform daily checks of the plant five (5) days per week for all Class C and D plants in accordance with Rule 62-699.311(1), F.A.C.
5. The domestic wastewater residuals shall be disposed of by introducing it into the phosphoric acid production process for nutrient recovery.
6. The permittee shall provide a weatherproof location for an on/site logbook to document the daily activities of the certified operator. This logbook shall record sign in/out times of the certified operator, list any maintenance performed and contain the signature and certification number of the operator.

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## **X. GENERAL CONDITIONS**

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit are binding and enforceable pursuant to Chapter 403, Florida Statutes. Any permit noncompliance constitutes a violation of Chapter 403, Florida Statutes, and is grounds for enforcement action, permit termination, permit revocation and reissuance, or permit revision. *[Rule 62-620.610(1), F.A.C.]*
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviations from the approved drawings, exhibits, specifications or conditions of this permit constitutes grounds for revocation and enforcement action by the Department. *[Rule 62-620.610(2), F.A.C.]*
3. As provided in subsection 403.087(7), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor authorize any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit or authorization that may be required for other aspects of the total project which are not addressed in this permit. *[Rule 62-620.610(3), F.A.C.]*
4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title. *[Rule 62-620.610(4), F.A.C.]*
5. This permit does not relieve the permittee from liability and penalties for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted source; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department. The permittee shall take all reasonable steps to minimize or prevent any discharge, reuse of reclaimed water, or residuals use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. *[Rule 62-620.610(5), F.A.C.]*
6. If the permittee wishes to continue an activity regulated by this permit after its expiration date, the permittee shall apply for and obtain a new permit. *[Rule 62-620.610(6), F.A.C.]*
7. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control, and related appurtenances, that are installed and used by the permittee to achieve compliance with the conditions of this permit. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to maintain or achieve compliance with the conditions of the permit. *[Rule 62-620.610(7), F.A.C.]*

**PERMITTEE:** Mosaic Fertilizer, LLC  
New Wales Concentrates Plant  
3095 State Road 640 W.  
Mulberry, FL 33860

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8. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit revision, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. *[Rule 62-620.610(8), F.A.C.]*
9. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, including an authorized representative of the Department and authorized EPA personnel, when applicable, upon presentation of credentials or other documents as may be required by law, and at reasonable times, depending upon the nature of the concern being investigated, to:
  - a. Enter upon the permittee's premises where a regulated facility, system, or activity is located or conducted, or where records shall be kept under the conditions of this permit;
  - b. Have access to and copy any records that shall be kept under the conditions of this permit;
  - c. Inspect the facilities, equipment, practices, or operations regulated or required under this permit; and
  - d. Sample or monitor any substances or parameters at any location necessary to assure compliance with this permit or Department rules.*[Rule 62-620.610(9), F.A.C.]*
10. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data, and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except as such use is proscribed by Section 403.111, F.S., or Rule 62-620.302, F.A.C. Such evidence shall only be used to the extent that it is consistent with the Florida Rules of Civil Procedure and applicable evidentiary rules. *[Rule 62-620.610(10), F.A.C.]*
11. When requested by the Department, the permittee shall within a reasonable time provide any information required by law which is needed to determine whether there is cause for revising, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also provide to the Department upon request copies of records required by this permit to be kept. If the permittee becomes aware of relevant facts that were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be promptly submitted or corrections promptly reported to the Department. *[Rule 62-620.610(11), F.A.C.]*
12. Unless specifically stated otherwise in Department rules, the permittee, in accepting this permit, agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard. *[Rule 62-620.610(12), F.A.C.]*

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13. The permittee, in accepting this permit, agrees to pay the applicable regulatory program and surveillance fee in accordance with Rule 62-4.052, F.A.C. *[Rule 62-620.610(13), F.A.C.]*
14. This permit is transferable only upon Department approval in accordance with Rule 62-620.340, F.A.C. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department. *[Rule 62-620.610(14), F.A.C.]*
15. The permittee shall give the Department written notice at least 60 days before inactivation or abandonment of a wastewater facility or activity and shall specify what steps will be taken to safeguard public health and safety during and following inactivation or abandonment. *[Rule 62-620.610(15), F.A.C.]*
16. The permittee shall apply for a revision to the Department permit in accordance with Rules 62-620.300, F.A.C., and the Department of Environmental Protection Guide to Permitting Wastewater Facilities or Activities Under Chapter 62-620, F.A.C., at least 90 days before construction of any planned substantial modifications to the permitted facility is to commence or with Rule 62-620.325(2), F.A.C., for minor modifications to the permitted facility. A revised permit shall be obtained before construction begins except as provided in Rule 62-620.300, F.A.C. *[Rule 62-620.610(16), F.A.C.]*
17. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The permittee shall be responsible for any and all damages which may result from the changes and may be subject to enforcement action by the Department for penalties or revocation of this permit. The notice shall include the following information:
  - a. A description of the anticipated noncompliance;
  - b. The period of the anticipated noncompliance, including dates and times; and
  - c. Steps being taken to prevent future occurrence of the noncompliance.*[Rule 62-620.610(17), F.A.C.]*
18. Sampling and monitoring data shall be collected and analyzed in accordance with Rule 62-4.246 and Chapters 62-160, 62-600, and 62-610, F.A.C., and 40 CFR 136, as appropriate.
  - a. Monitoring results shall be reported at the intervals specified elsewhere in this permit and shall be reported on a Discharge Monitoring Report (DMR), DEP Form 62-620.910(10), or as specified elsewhere in the permit.
  - b. If the permittee monitors any contaminant more frequently than required by the permit, using Department approved test procedures, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.
  - c. Calculations for all limitations which require averaging of measurements shall use an arithmetic mean unless otherwise specified in this permit.
  - d. Except as specifically provided in Rule 62-160.300, F.A.C., any laboratory test required by this permit shall be performed by a laboratory that has been certified by the Department of Health Environmental Laboratory Certification Program (DOH ELCP). Such certification shall be for the matrix, test method and analyte(s) being measured to comply with this permit. For domestic wastewater facilities, testing for parameters

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listed in Rule 62-160.300(4), F.A.C., shall be conducted under the direction of a certified operator.

- e. Field activities including on-site tests and sample collection shall follow the applicable standard operating procedures described in DEP-SOP-001/01 adopted by reference in Chapter 62-160, F.A.C.
- f. Alternate field procedures and laboratory methods may be used where they have been approved in accordance with Rules 62-160.220, and 62-160.330, F.A.C.

*[Rule 62-620.610(18), F.A.C.]*

19. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule detailed elsewhere in this permit shall be submitted no later than 14 days following each schedule date. *[Rule 62-620.610(19), F.A.C.]*

20. The permittee shall report to the Department's Division of Water Resource Management, Phosphate Management Office any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain: a description of the noncompliance and its cause; the period of noncompliance including exact dates and time, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

- a. The following shall be included as information which must be reported within 24 hours under this condition:
  - (1) Any unanticipated bypass which causes any reclaimed water or effluent to exceed any permit limitation or results in an unpermitted discharge,
  - (2) Any upset which causes any reclaimed water or the effluent to exceed any limitation in the permit,
  - (3) Violation of a maximum daily discharge limitation for any of the pollutants specifically listed in the permit for such notice, and
  - (4) Any unauthorized discharge to surface or ground waters.
- b. Oral reports as required by this subsection shall be provided as follows:
  - (1) For unauthorized releases or spills of treated or untreated wastewater reported pursuant to subparagraph (a)4. that are in excess of 1,000 gallons per incident, or where information indicates that public health or the environment will be endangered, oral reports shall be provided to the STATE WATCH OFFICE TOLL FREE NUMBER (800) 320-0519, as soon as practical, but no later than 24 hours from the time the permittee becomes aware of the discharge. The permittee, to the extent known, shall provide the following information to the State Watch Office:
    - (a) Name, address, and telephone number of person reporting;
    - (b) Name, address, and telephone number of permittee or responsible person for the discharge;
    - (c) Date and time of the discharge and status of discharge (ongoing or ceased);
    - (d) Characteristics of the wastewater spilled or released (untreated or treated, industrial or domestic wastewater);

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- (e) Estimated amount of the discharge;
  - (f) Location or address of the discharge;
  - (g) Source and cause of the discharge;
  - (h) Whether the discharge was contained on-site, and cleanup actions taken to date;
  - (i) Description of area affected by the discharge, including name of water body affected, if any; and
  - (j) Other persons or agencies contacted.
- (2) Oral reports, not otherwise required to be provided pursuant to subparagraph b.1 above, shall be provided to the Department's Division of Water Resource Management, Phosphate Management Office within 24 hours from the time the permittee becomes aware of the circumstances.
- c. If the oral report has been received within 24 hours, the noncompliance has been corrected, and the noncompliance did not endanger health or the environment, the Department's Division of Water Resource Management, Phosphate Management Office shall waive the written report.

*[Rule 62-620.610(20), F.A.C.]*

21. The permittee shall report all instances of noncompliance not reported under Permit Conditions X. 17, 18 or 19 of this permit at the time monitoring reports are submitted. This report shall contain the same information required by Permit Condition X.20 of this permit.  
*[Rule 62-620.610(21), F.A.C.]*

22. Bypass Provisions.

- a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment works.
- b. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless the permittee affirmatively demonstrates that:
  - (1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and
  - (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
  - (3) The permittee submitted notices as required under Permit Condition X. 22. c. of this permit.
- c. If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Department, if possible at least 10 days before the date of the bypass. The permittee shall submit notice of an unanticipated bypass within 24 hours of learning about the bypass as required in Permit Condition X. 20. of this permit. A notice shall include a description of the bypass and its cause; the period of the bypass, including exact dates and times; if the bypass has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent recurrence of the bypass.



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- d. The Department shall approve an anticipated bypass, after considering its adverse effect, if the permittee demonstrates that it will meet the three conditions listed in Permit Condition X. 22. b.(1) through (3) of this permit.
- e. A permittee may allow any bypass to occur which does not cause reclaimed water or effluent limitations to be exceeded if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Permit Condition X. 22. b. through d. of this permit.

*[Rule 62-620.610(22), F.A.C.]*

23. Upset Provisions.

- a. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee.
  - (1) An upset does not include noncompliance caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, careless or improper operation.
  - (2) An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of upset provisions of Rule 62-620.610, F.A.C., are met.
- b. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed contemporaneous operating logs, or other relevant evidence that:
  - (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
  - (2) The permitted facility was at the time being properly operated;
  - (3) The permittee submitted notice of the upset as required in Permit Condition X.5. of this permit; and
  - (4) The permittee complied with any remedial measures required under Permit Condition X. 5. of this permit.
- c. In any enforcement proceeding, the burden of proof for establishing the occurrence of an upset rests with the permittee.
- d. Before an enforcement proceeding is instituted, no representation made during the Department review of a claim that noncompliance was caused by an upset is final agency action subject to judicial review.

*[Rule 62-620.610(23), F.A.C.]*

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

---

John A. Coates, P.E.  
Mining and Minerals Programs  
Division of Water Resource Management

**PERMITTEE:** Mosaic Fertilizer, LLC  
New Wales Concentrates Plant  
3095 State Road 640 W.  
Mulberry, FL 33860

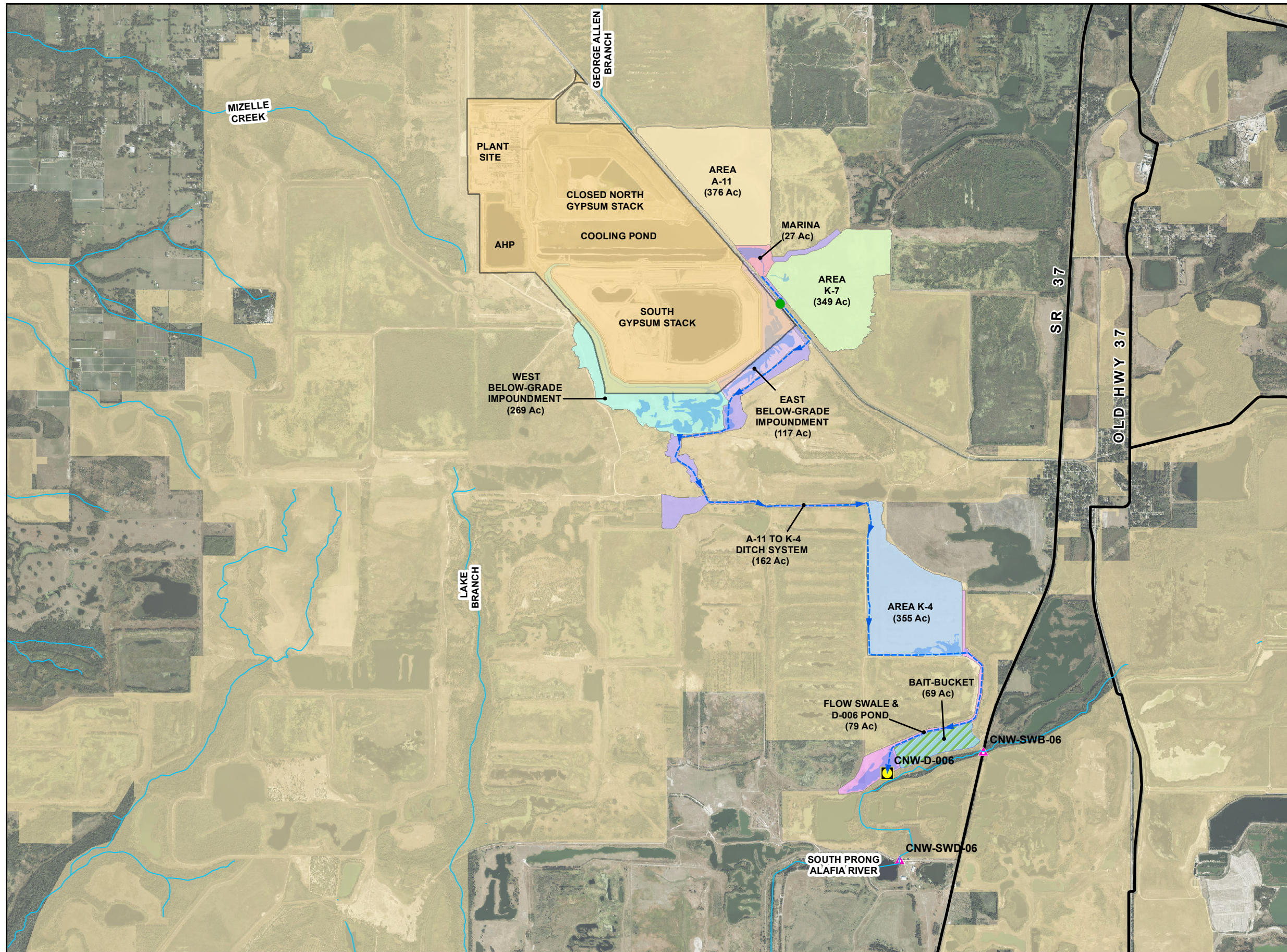
**PERMIT NUMBER:** FL0036421 (Major)  
**PA FILE NO.** FL0036421-022-IW1S/RA

DATE: **PROPOSED**

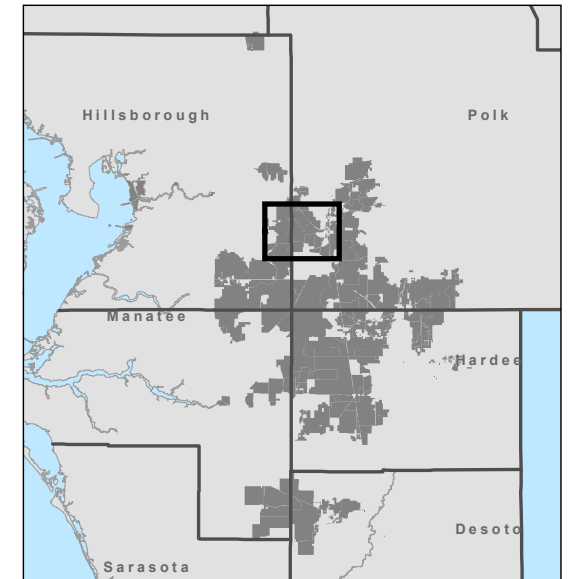
Proposed



# NEW WALES



## Location Key



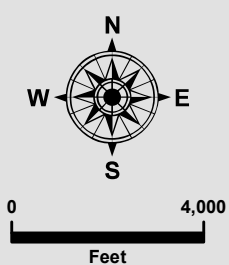
## Legend

- D-006 Outfall Flow Path
- Stream
- Instream Sampling Locations
- Outfall D-006
- Internal Outfall I-006
- Major Roads
- Facility Boundary
- Other Mosaic Fertilizer Holdings

Aerial Dated December 2016



Figure 4 Flow Path From Area A-11 To Outfall D-006





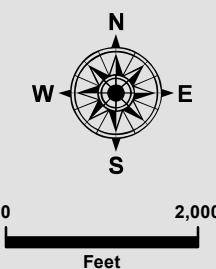


- ▲ Floridan Aquifer System Monitor Well
- Intermediate Aquifer System Monitor Well
- Production/Recovery Well
- Surficial Aquifer System Monitor Well
- Cut-Off Wall

Aerial Dated December 2016



### Figure 9 Monitor Well Location Plan



User: keb Date: 5/2/2018 Path: W:\Projects\2017\17-13-0084 - New Wales\ 20170612\_Mosaic Figures\ArcGIS\Mosaic Figures\From Mosaic\Figure\_9\103\New Wales Figure 9.mxd



## Attachment C

### Sampling/Monitoring Requirements for Supplemental Monitoring Stations

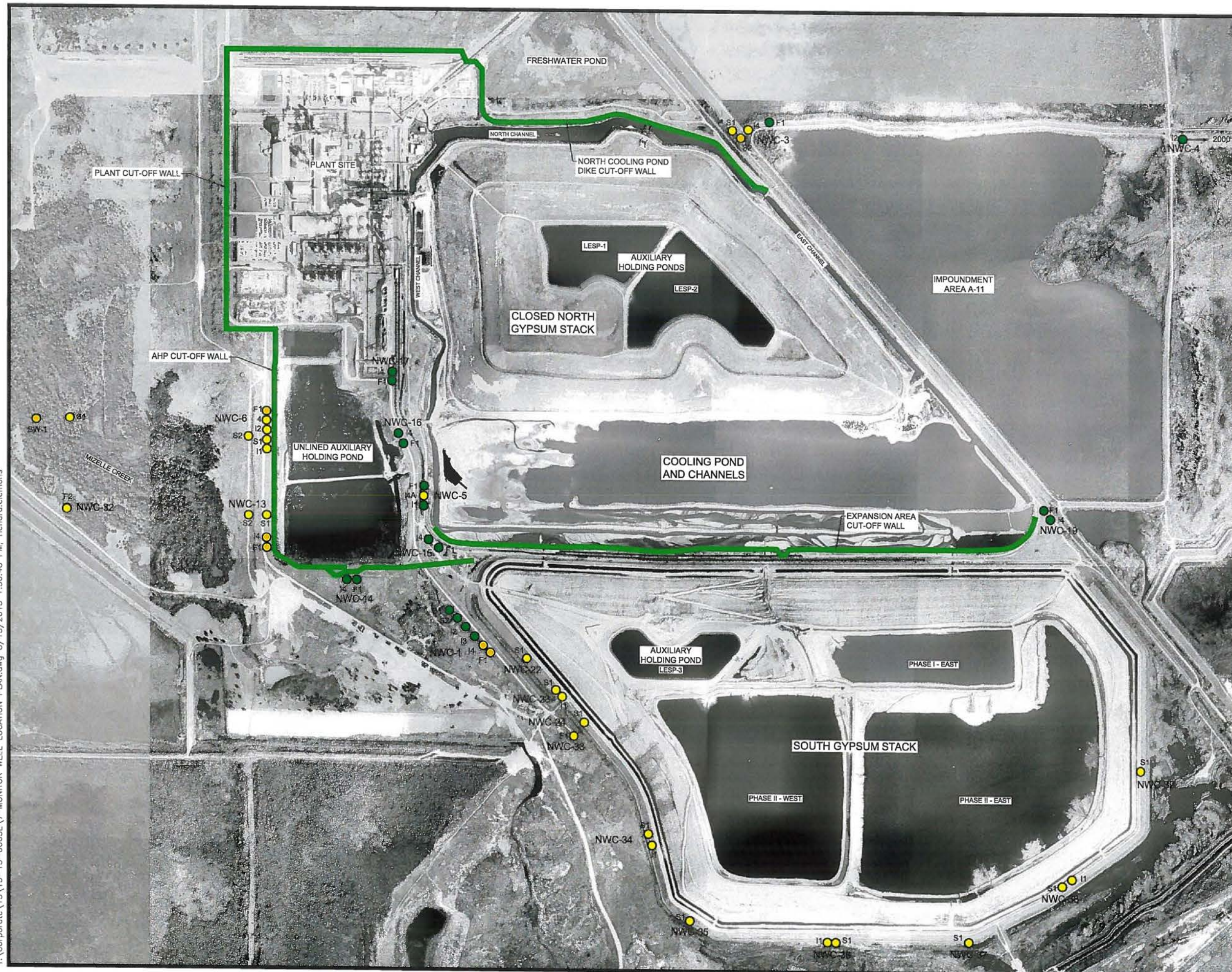
Monitor Well	Aquifer Monitored	Depth (ft)	Well Type	Sampling Frequency	Reporting Frequency	Parameters
SW-1	Surface Water Station			Quarterly	Quarterly	pH; conductance; turbidity; TDS; SO <sub>4</sub> ; Na
NWC-1-S1	Surficial	36	Piezometer	Quarterly	Annually	Water level
NWC-1-S2	Surficial	68	Piezometer	Quarterly	Annually	Water level
NWC-1-I2	Intermediate	127	Piezometer	Quarterly	Annually	Water level
NWC-1-I3	Intermediate	182	Piezometer	Quarterly	Annually	Water level
NWC-1-I4	Intermediate	237	Observation	Quarterly Annually	Annually Annually	Water level pH; TDS; conductance; turbidity; SO <sub>4</sub> ; Na
NWC-1-F1	Floridan	302	Observation	Quarterly Annually	Annually Annually	Water level pH; conductance; turbidity; TDS; SO <sub>4</sub> ; Na
NWC-3-S2	Surficial	47	Observation	Quarterly	Quarterly	Water level; pH; conductance; turbidity; TDS; SO <sub>4</sub> ; Na
NWC-3-F1	Floridan	340	Piezometer	Quarterly	Annually	Water level
NWC-4-I2	Intermediate	130	Piezometer	Quarterly	Annually	Water level
NWC-5-I1	Intermediate	88	Piezometer	Quarterly	Annually	Water level
NWC-5-F1	Floridan	308	Piezometer	Quarterly	Annually	Water level
NWC-6-F1	Floridan	306	Compliance	Quarterly	Quarterly	Water level; pH; conductance; turbidity; TDS; SO <sub>4</sub> ; Na
NWC-13-I4	Intermediate	249	Compliance	Quarterly	Quarterly	Water level; pH; conductance; turbidity; SO <sub>4</sub> ; Na
NWC-13-F1	Floridan	312	Compliance	Quarterly	Quarterly	Water level; pH; conductance; turbidity; SO <sub>4</sub> ; Na
NWC-14-I4	Intermediate	249	Piezometer	Quarterly	Annually	Water level
NWC-14-F1	Floridan	311	Piezometer	Quarterly	Annually	Water level
NWC-15-I4	Intermediate	248	Piezometer	Quarterly	Annually	Water level
NWC-15-F1	Floridan	321	Piezometer	Quarterly	Annually	Water level
NWC-16-I4	Intermediate	247	Piezometer	Quarterly	Annually	Water level
NWC-16-F1	Floridan	321	Piezometer	Quarterly	Annually	Water level

## Attachment C

NWC-17-I4	Intermediate	247	Piezometer	Quarterly	Annually	Water level
NWC-17-F1	Floridan	308	Piezometer	Quarterly	Annually	Water level
NWC-19-I4	Intermediate	264	Piezometer	Quarterly	Annually	Water level
NWC-19-F1	Floridan	326	Piezometer	Quarterly	Annually	Water level



T:\Corporate\13-13-0063E\7 MONITOR WELL LOCATION PLAN.dwg 8/13/2015 1:30:48 PM, richard.clemons



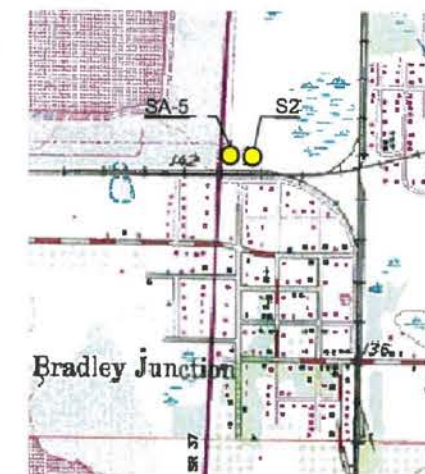
0 600 1200

SCALE: FEET

AERIAL PHOTOGRAPH DATED 02/04/10  
FROM I.F. ROOKS & ASSOCIATES, INC.



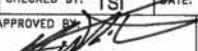
# LEGEND

- CUT-OFF WALL
- EXISTING MONITOR WELL
- TO BE TRANSFERRED  
RESCINDED DO MONITOR WELL
- TO BE TRANSFERRED  
RESCINDED DO WELL FOR  
WATER LEVEL MONITORING



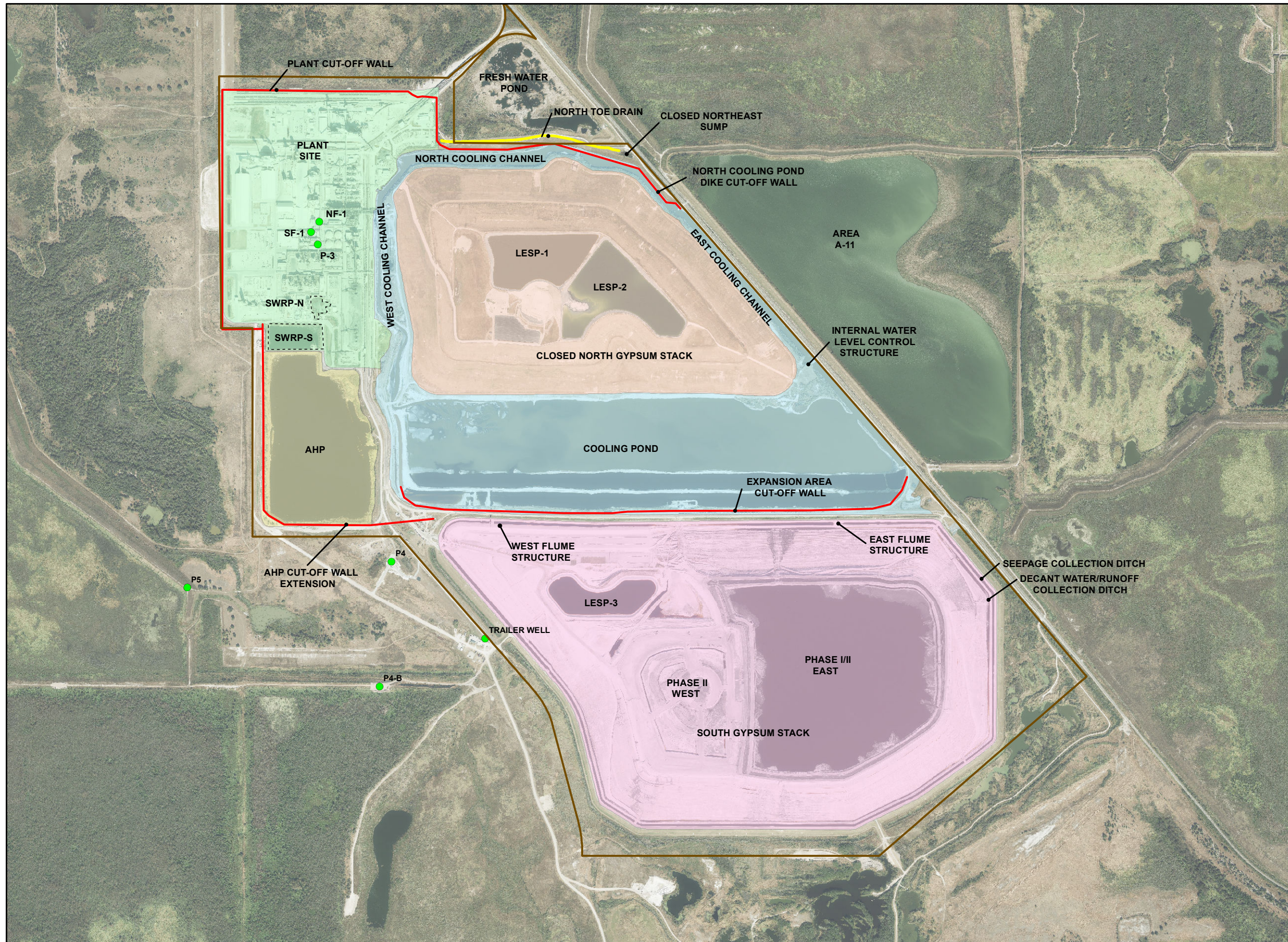
BACKGROUND MONITOR WELLS  
AT BRADLEY JUNCTION ABOUT  
2½ MILES SOUTHEAST OF  
SOUTH GYPSUM STACK

## MONITOR WELL LOCATION PLAN

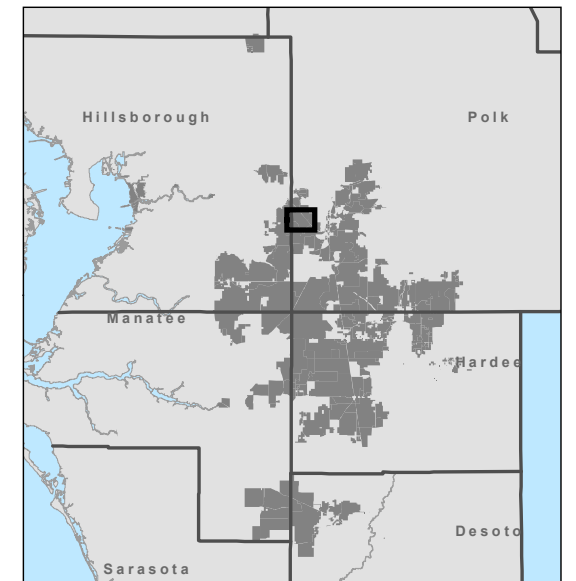
 <b>Ardaman &amp; Associates, Inc.</b> Geotechnical, Environmental and Materials Consultants		
<b>NEW WALES PLANT</b> WASTEWATER PERMIT MINOR REVISION		
 <b>MOSAIC FERTILIZER, LLC</b> NEW WALES PLANT MULBERRY, FLORIDA		
DRAWN BY: RDC	CHECKED BY: TSI	DATE: 08/13/15
FILE NO: 13-13-0063E	APPROVED BY: 	FIGURE: 1



# NEW WALES



## Location Key



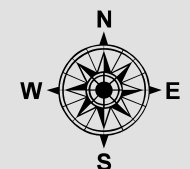
## Legend

- Facility Boundary
- Wells
- Cut-Off Wall

Aerial Dated December 2016



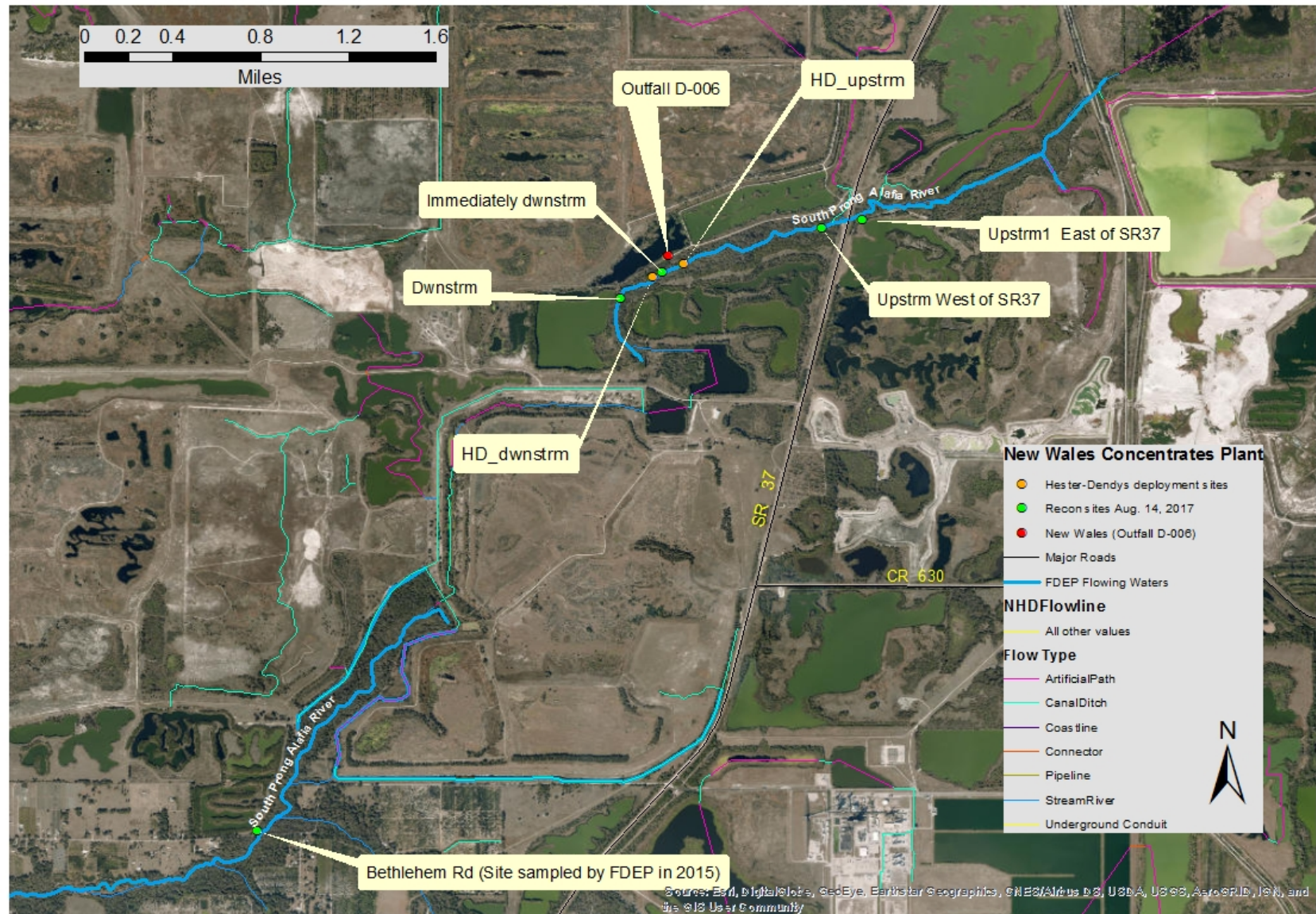
**Figure 2 Facility Aerial Photograph**



0 3,000  
Feet



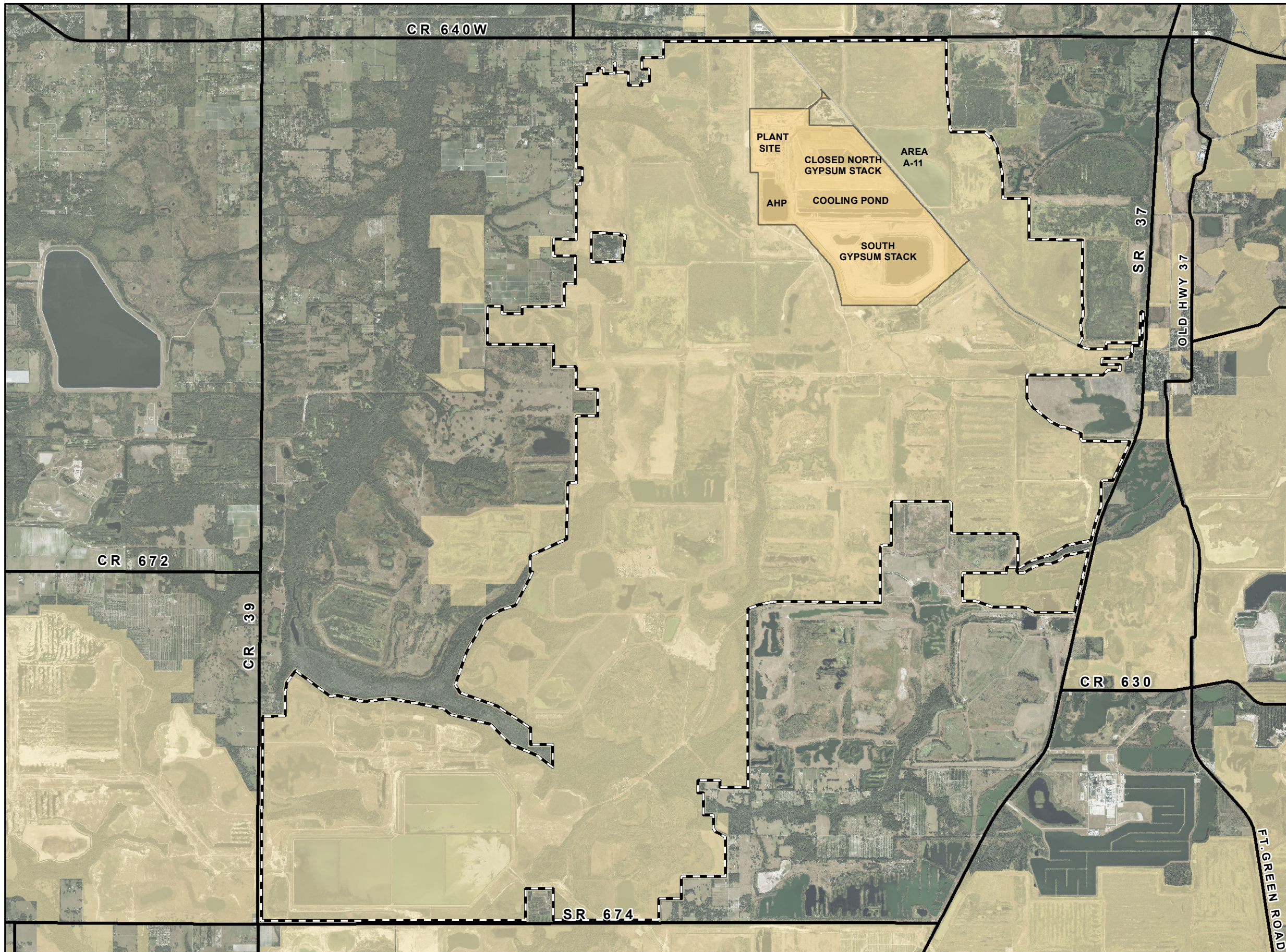
## Attachment E



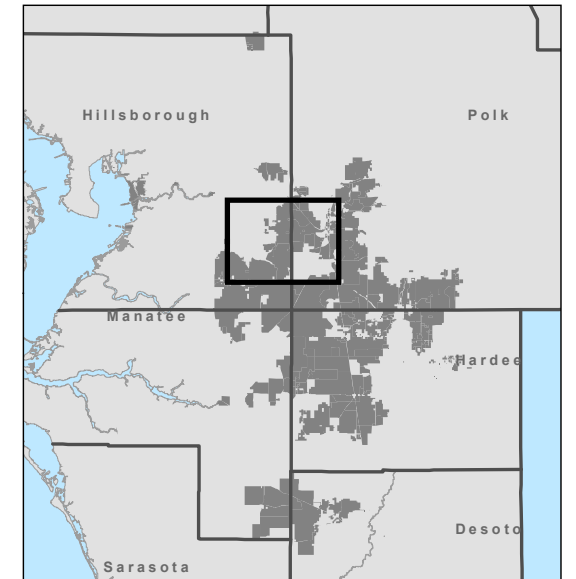
Mosaic New Wales Outfall D-006, Bethlehem Road biological monitoring site, and other in-stream FDEP monitoring sites.



# NEW WALES



## Location Key



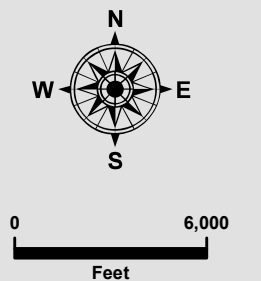
## Legend

- Facility Boundary
- Horizontal Zone of Discharge
- Major Roads
- Other Mosaic Fertilizer Holdings

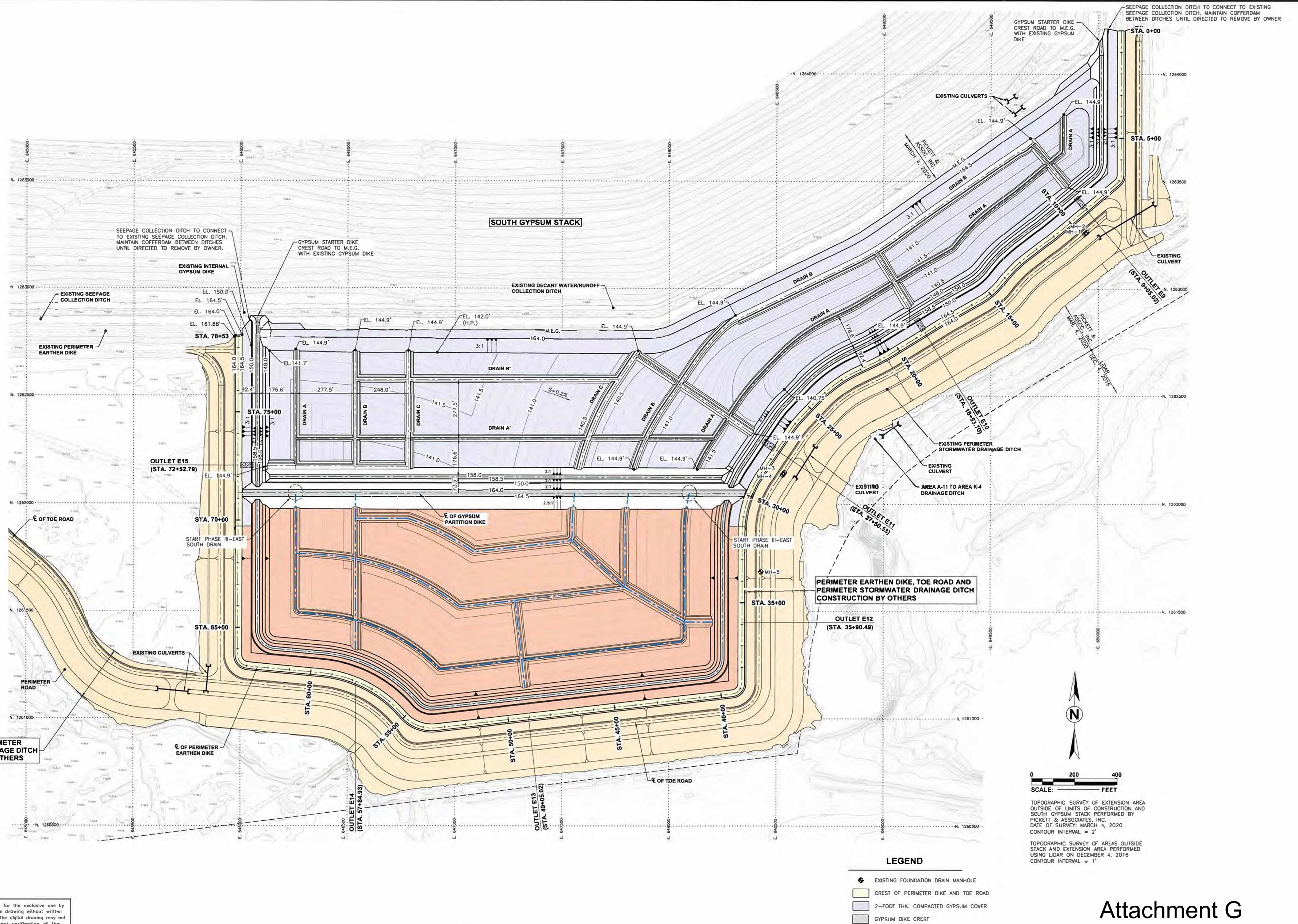
Aerial Dated December 2016



Figure 1 Aerial Photograph







This drawing was produced by Ardaman & Associates, Inc. for the exclusive use by Mosaic Fertilizer, LLC. No other reproduction or use of this drawing without written authorization from Ardaman & Associates, Inc. is permitted. The digital drawing may not be reasonably relied upon by others without independent verification of the drawing/grading features, as some features, including but not limited to, text, points and lines may not reflect actual design conditions.

REVISION	DATE	DESCRIPTION	APPR'D	REVISION	DATE	ISSUED FOR PERMIT	MAH	FILE NO.	21-13-0121	SCALE	AS SHOWN	APPR'D	APPROVED BY:
				P2	05/27/21	ISSUED FOR PERMIT							

NAME	DATE	CHECKED BY	DATE	DESIGNED BY	DATE
ST	04/15/21	ST	05/24/21	BHV	05/24/21

**Ardaman & Associates, Inc.**  
Geotechnical, Environmental and Materials Consultants  
8008 S. Orange Ave., Orlando, FL 32809  
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950



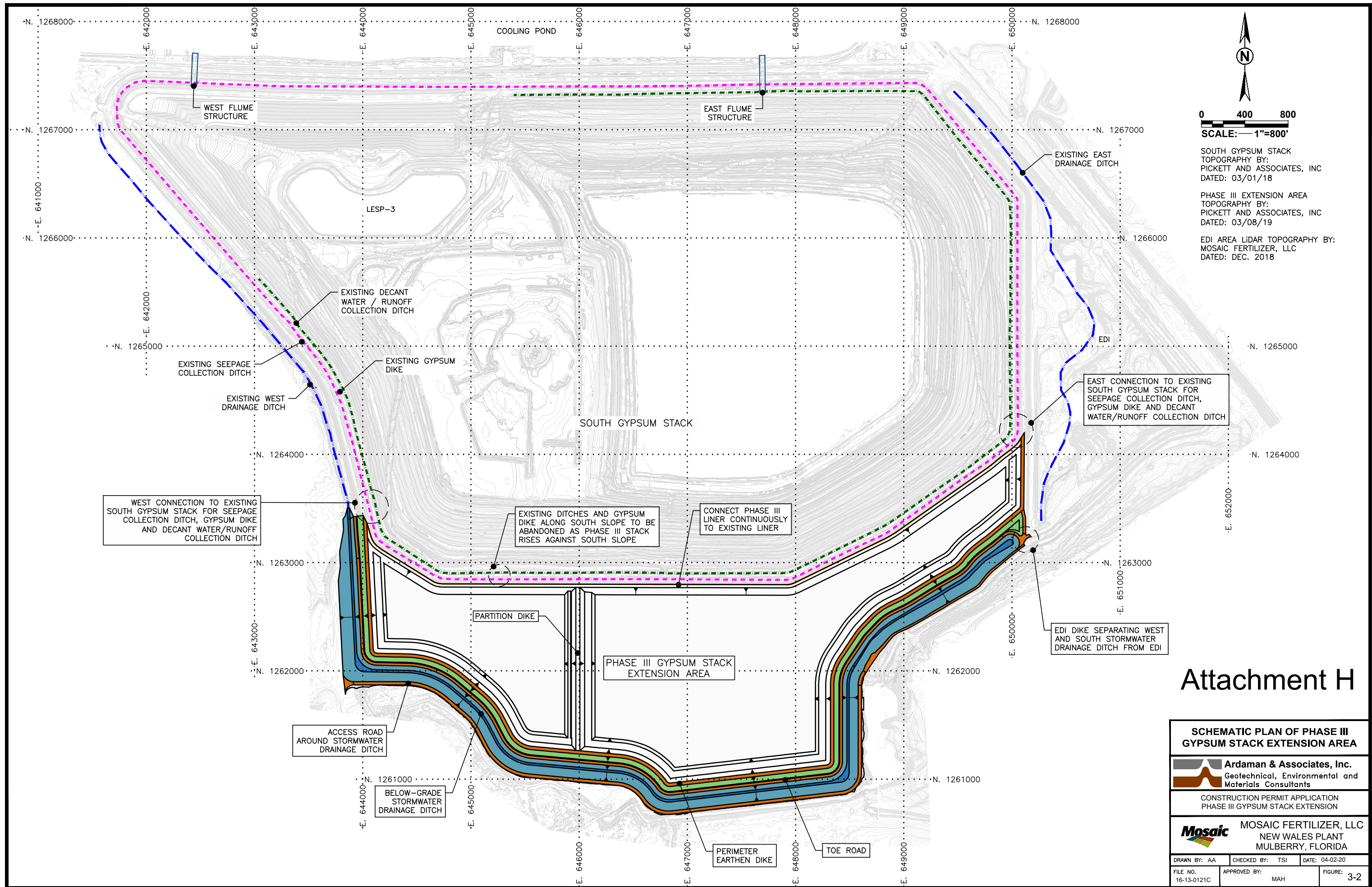
**MOSAIC FERTILIZER, LLC**  
NEW WALES PLANT  
MULBERRY, FLORIDA

**ALTERNATIVE  
LINER AND DRAIN SYSTEM  
CONSTRUCTION DRAWINGS FOR  
SUBDIVIDING PHASE III EAST**

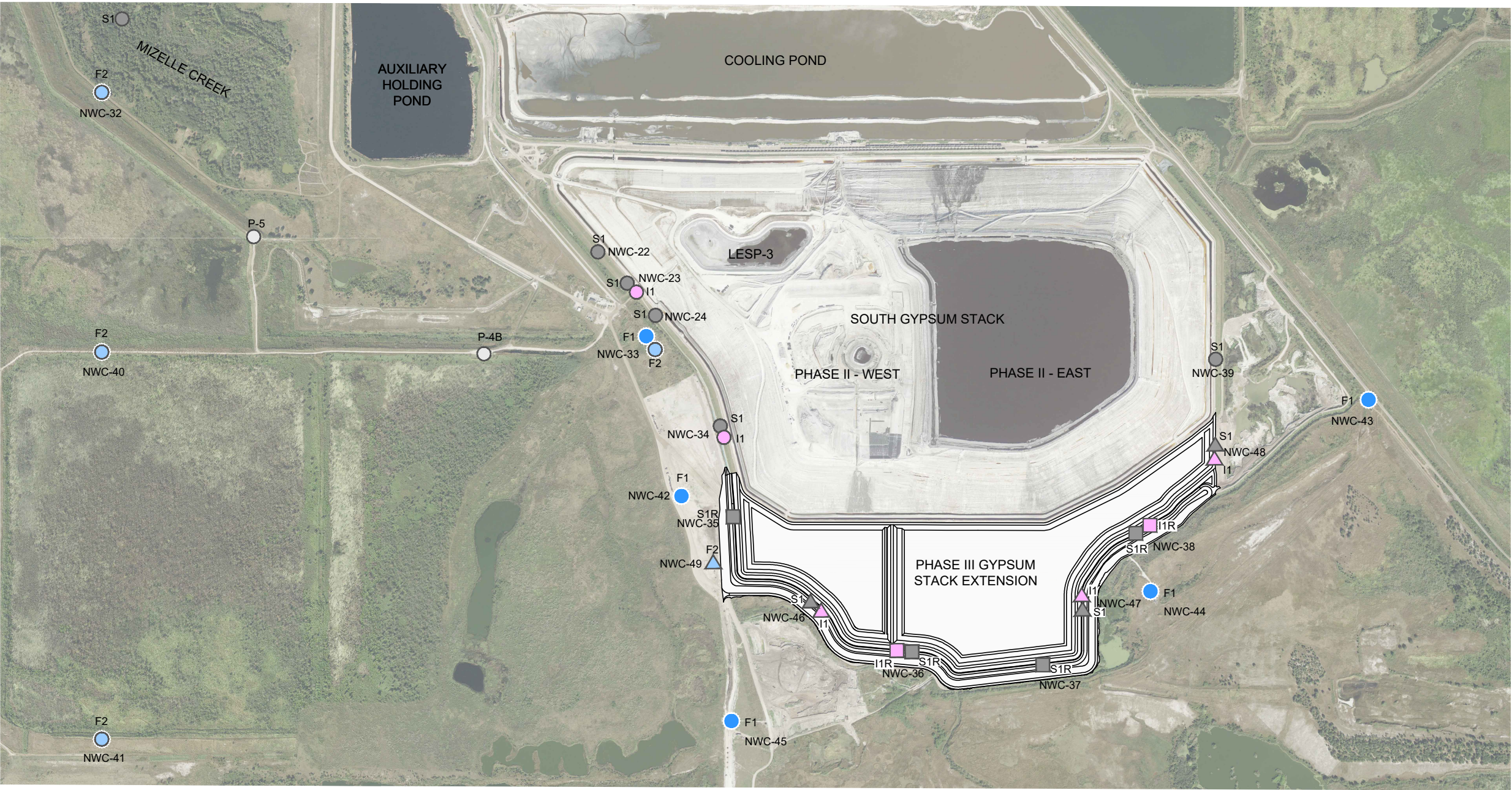
**PHASE III - EAST  
FINAL GRADING PLAN**

DRAWING NO.  
**10A**









**EXISTING WELLS**

- P ○ FLORIDAN AQUIFER RECOVERY WELL
- S1 ● SURFICIAL AQUIFER SYSTEM MONITOR WELL
- I1 ● INTERMEDIATE AQUIFER SYSTEM UPPER MOST TRANSMISSIVE ZONE MONITOR WELL
- F1 ● UPPER FLORIDAN AQUIFER SYSTEM MONITOR WELL IN UPPER PERMEABLE ZONE
- F2 ● UPPER FLORIDAN AQUIFER SYSTEM MONITOR WELL IN LOWER PERMEABLE ZONE



**NEW WELLS**

- S1 ▲ SURFICIAL AQUIFER SYSTEM MONITOR WELL
- I1 ▲ INTERMEDIATE AQUIFER SYSTEM UPPER MOST TRANSMISSIVE ZONE MONITOR WELL
- F2 ▲ UPPER FLORIDAN AQUIFER SYSTEM MONITOR WELL IN LOWER PERMEABLE ZONE

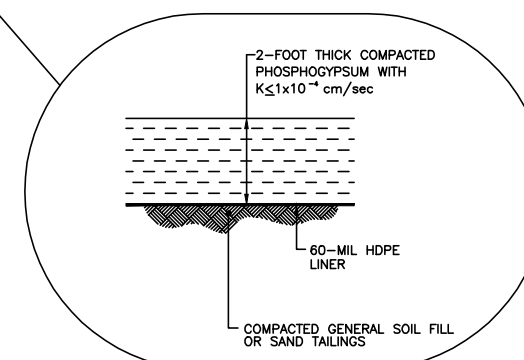
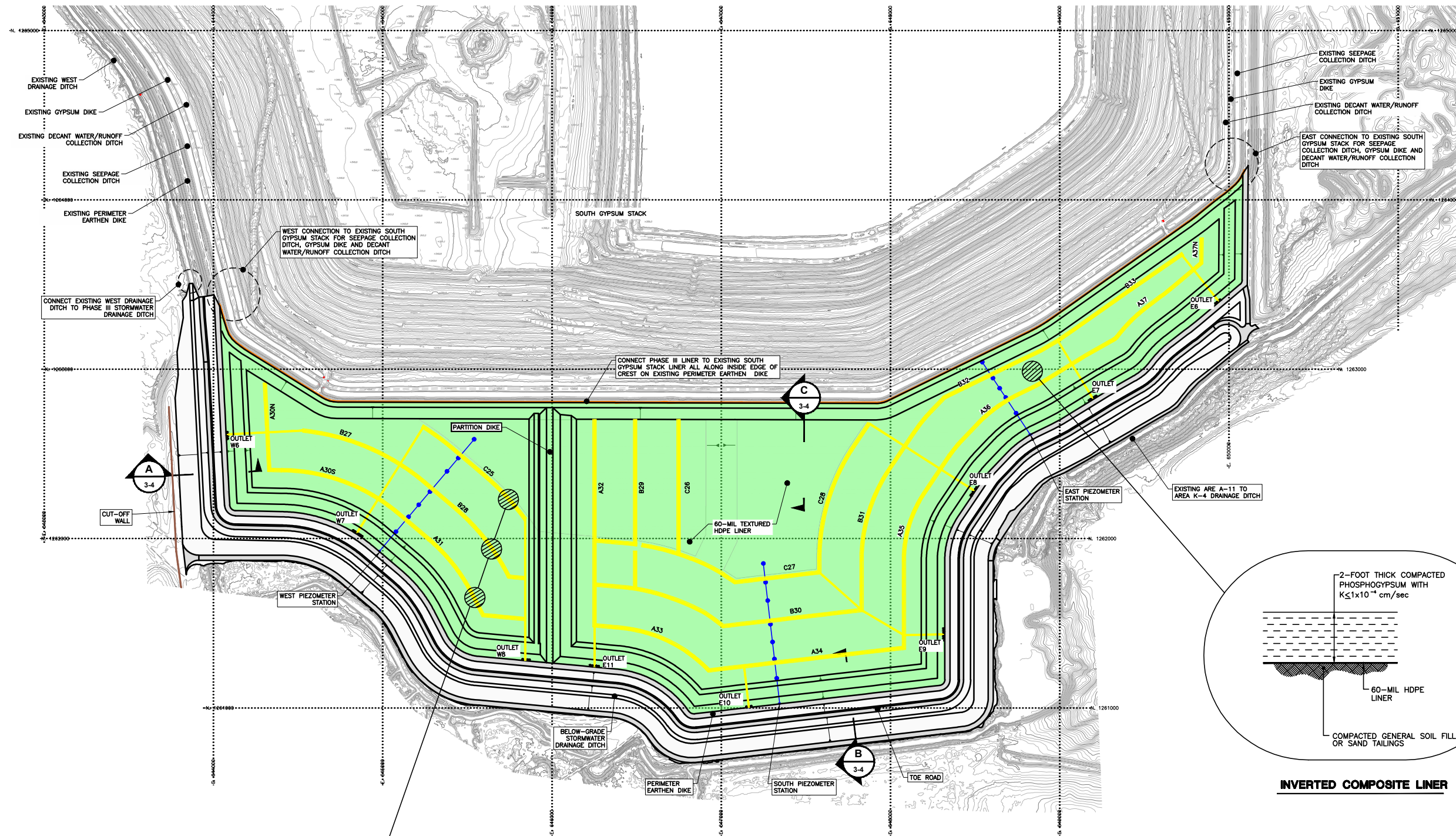
**REPLACEMENT WELLS**

- S1R ■ SURFICIAL AQUIFER SYSTEM MONITOR WELL
- I1R ■ INTERMEDIATE AQUIFER SYSTEM UPPER MOST TRANSMISSIVE ZONE MONITOR WELL

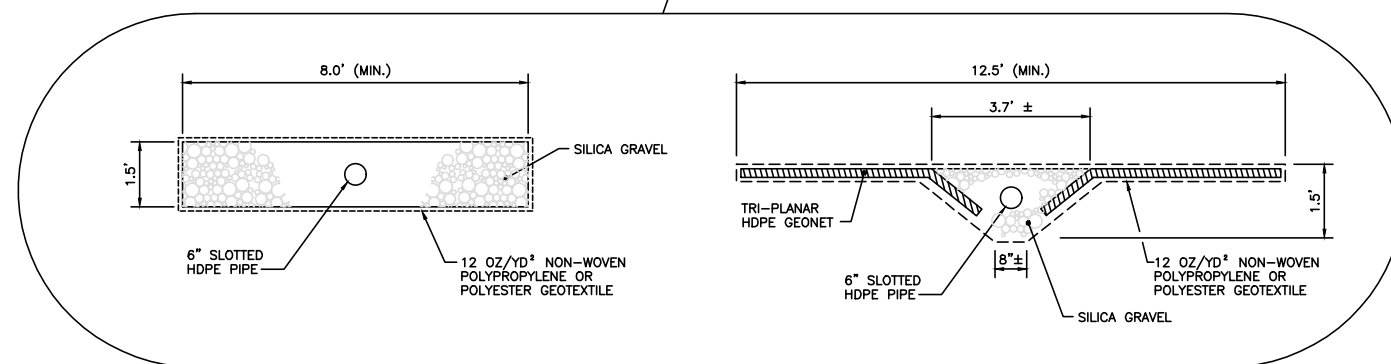
# Attachment I

<b>MONITOR WELL LOCATION PLAN</b>		
 Ardaman & Associates, Inc. Geotechnical, Environmental and Materials Consultants		
CONSTRUCTION PERMIT APPLICATION PHASE III GYPSUM STACK EXTENSION		
 MOSAIC FERTILIZER, LLC NEW WALES PLANT MULBERRY, FLORIDA		
DRAWN BY: AA/VCD	CHECKED BY: TSI	DATE: 04-02-20
FILE NO. 16-13-0121C	APPROVED BY: MAH	FIGURE: 8-8





**INVERTED COMPOSITE LINER**



**GRAVEL DRAIN ALTERNATIVE**

**GEONET DRAIN ALTERNATIVE**

## Attachment J

### SCHEMATIC PLAN OF PHASE III GYPSUM STACK EXTENSION AREA

**Ardaman & Associates, Inc.**  
Geotechnical, Environmental and  
Materials Consultants

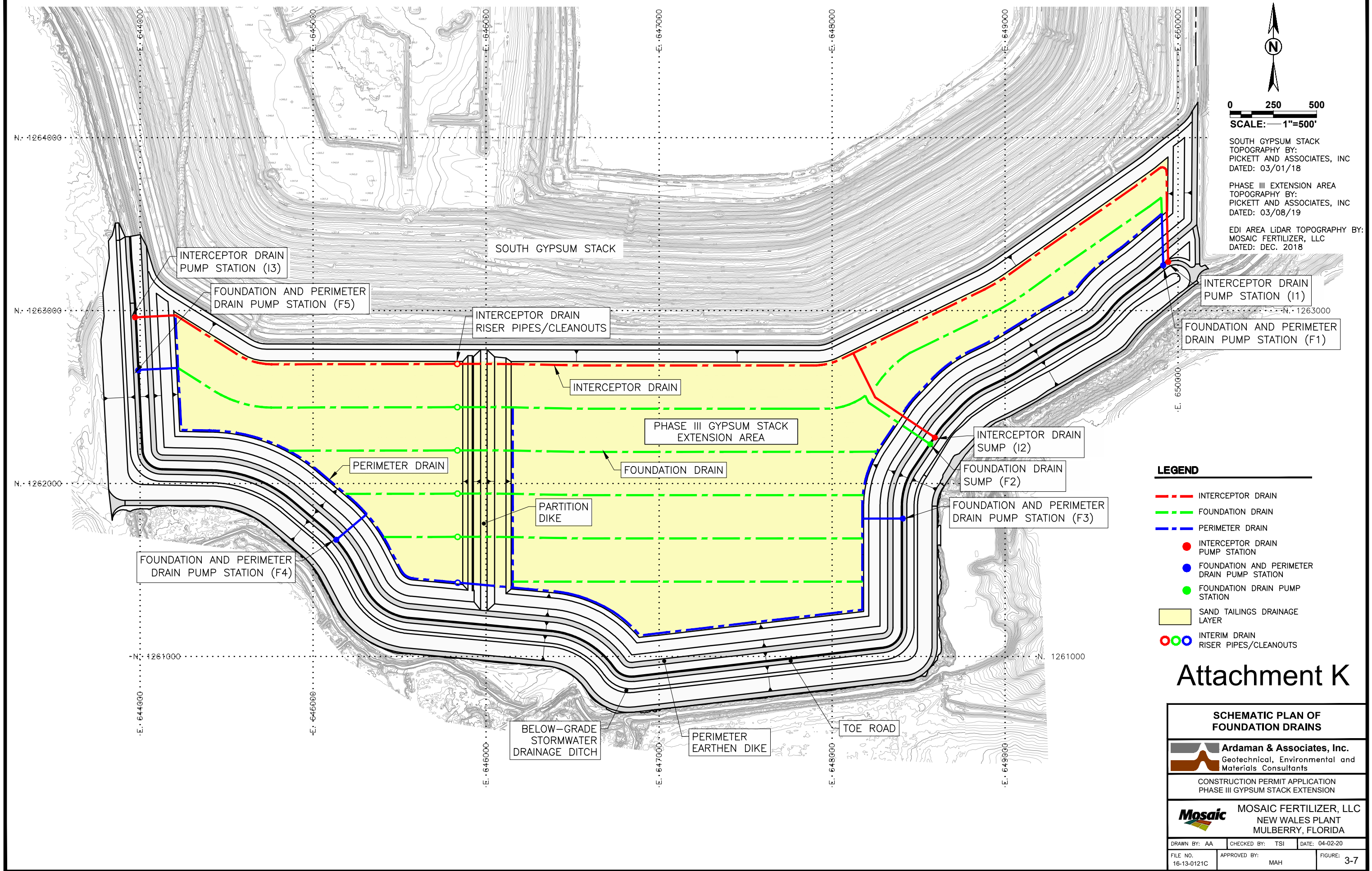
CONSTRUCTION PERMIT APPLICATION  
PHASE III GYPSUM STACK EXTENSION

**Mosaic** MOSAIC FERTILIZER, LLC  
NEW WALES PLANT  
MULBERRY, FLORIDA

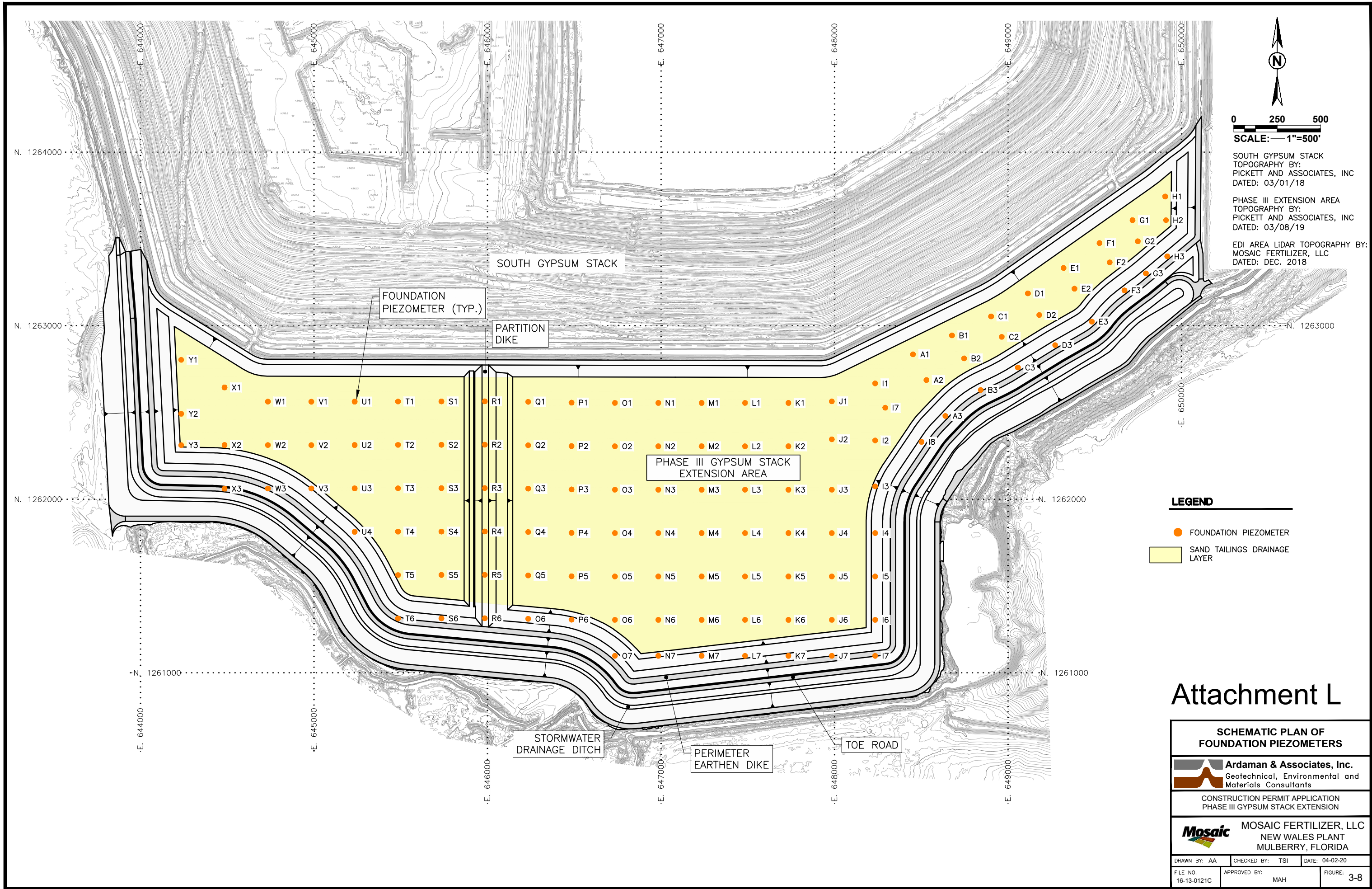
DRAWN BY: AA CHECKED BY: TSI DATE: 04-01-20

FILE NO. 16-13-0121C APPROVED BY: MAH FIGURE: 3-3

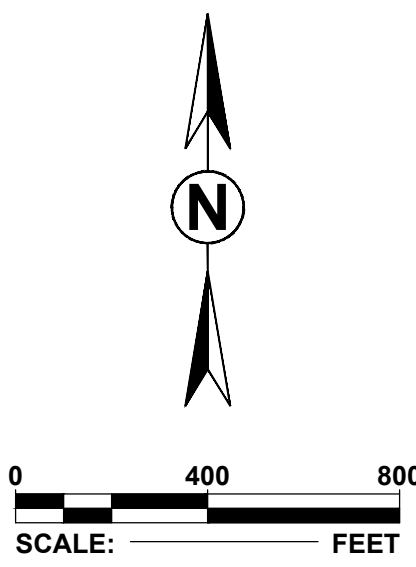












AERIAL PHOTOGRAPHS PROVIDED BY:  
KUCERA INTERNATIONAL, INC.  
FLIGHT DATE: DECEMBER 2018 TO  
JANUARY 2019  
PICKETT & ASSOCIATES, INC.  
FLIGHT DATE: MARCH 8, 2019

- LEGEND**
- STANDBY GEOPHONES
  - ACTIVE GEOPHONES (~120'–175' DEEP)
  - ACTIVE GEOPHONES (~300' DEEP)

## Attachment M

**GEOPHONE LOCATION PLAN**

**Ardaman & Associates, Inc.**  
Geotechnical, Environmental and  
Materials Consultants

CONSTRUCTION PERMIT APPLICATION  
PHASE III GYPSUM STACK EXTENSION

**Mosaic** MOSAIC FERTILIZER, LLC  
NEW WALES PLANT  
MULBERRY, FLORIDA

DRAWN BY: ST	CHECKED BY: ST	DATE: 03/10/21
FILE NO. 16-13-0121E	APPROVED BY: MAH	FIGURE: 2



- Subsurface Monitoring Plan (SMP)
  - Mosaic will submit an SMP for the facility's Subsurface Activity Early Detection System (SAEDS).
  - 90 days prior to submittal of the Certification of Completion of Construction Completion Form and a request for Department inspection as specified in Chapter 62-673, F.A.C.
  - Review and approval of the SMP will be required prior to the Department's authorization to activate the Phase III extension
  - The plan will include the operating, maintenance, monitoring, and reporting protocols for the plan components:
    - passive seismic monitoring system
    - foundation vibrating wire piezometer system
    - subsurface, below liner drain flows
    - groundwater monitoring network
  - The SMP will designate threshold triggers that if observed, will require the permittee to provide verbal notice to the Department of information indicating the presence of a subsurface condition with the potential to adversely affect the integrity of the phosphogypsum stack or the functionality of any of component of the SAEDS. Such threshold triggers will consider instantaneous, cumulative, and joint observations for the overall SAEDS.
- Passive Seismic Monitoring System (PSMS)
  - Updates required for reports
    - update on the operational status of the PSMS including summary statistics on the operational status of each detector during the prior quarter.
    - The current event detection thresholds utilized for the prior quarter and discussion of any changes in the event detection thresholds from prior quarters
    - Summary of all events, above the event detection threshold, detected by the passive seismic monitoring system including
      - the time and date of detected events
      - the horizontal and vertical locations of events (absolute coordinates and graphical representation relative to site geology and stack system)
      - magnitude of detected events
        - Individual Events
          - Measure of local moment magnitude (Mw)
          - Equivalent measure of energy released (Joules)
        - Cumulative Events
          - Column stack 1 hr interval z-scores
          - Estimate of 1 hr interval total energy emission (Joules)
    - Discussion of any uncertainty associated with characterization of the location and depth of detected events
    - Discussion of any events detected at a location and/or depth consistent with detections from prior quarters

- Periodic Tomographic Imaging (i.e., Mapping)
  - Tomographic imaging shall use the detectors associated with the PSMS to periodically create images of the subsurface of the facility.
  - A baseline image shall be created for comparison with subsequent images over time.
  - Reports shall include discussions of any observed subsurface changes, and recommendations for any needed further evaluations.
- Vibrating Wire Piezometer System (VWPS)
  - Monitoring required
    - All pressure transducers measuring water levels in the piezometers shall be monitored with a data acquisition system on 4-hour intervals. Data shall be evaluated to identify sensors that are displaying either a relative decline or relative rise in water pressure. The piezometer data shall initially be downloaded and evaluated weekly for the first 12 months of operation. Following this initial period, the permittee may request in writing, for Department review and approval, to modify the schedule (but no less frequently than monthly). Otherwise, the schedule shall continue as weekly.
  - Updates required for reports
    - An update on the operational status of the VWPS including summary statistics on the operational status of each detector during the prior quarter.
    - Provide information on the data acquisition frequency of the system (e.g. data storage interval)
    - The current event detection thresholds utilized for the most recent quarter and discussion of any changes in the event detection thresholds from prior quarters
    - A summary of any events that deviated from background monitoring (e.g. identify statistically significant change over time, and whether there is there a spatial component?)
    - Period of record graphs depicting monitoring results for the foundation vibrating wire piezometer system
- Drain flows (Intercept and Below Phase III Liner)
  - Monitoring required at each pump station
    - Water level in the foundation drainage pump stations will be float-controlled with “pump-on” and “pump-off” elevations, expected to be 138.0 and 132.0 feet (NGVD), respectively. Each pump station shall have a light and horn highwater level alarms that trigger when the pump is not operating. Water level shall be monitored with a pressure transducer and data acquisition system on 4-hour intervals and manually recorded weekly.
    - The specific conductance shall be monitored by an in-line sensor with digital read-out. The specific conductance shall be manually recorded weekly.
    - Flow totalizes shall be installed and quantity of flow manually recorded weekly.
    - Pump run-time meters shall be installed with an electromechanical or digital read-out, and run-time data shall be manually recorded weekly.

- Updates required for reports
  - Results of the quarterly drain inspections (e.g. flows, and in case of intercept drain, pH, conductivity, presence /absence of flow)
  - Evaluation of any unanticipated conditions and discussion of known or potential cause(s)
- Maintenance
  - Updates required for reports
    - Discussion of any SMS maintenance activities completed during the prior quarter
    - Discussion of any SMS maintenance activities planned for the next quarter
- Differentiate between routine and non-routine reports
- Routine SMS Reports
  - For each of the SMS elements described above, Mosaic shall submit quarterly reports
  - Summary and interpretation of the collective monitoring program results shall also included.
- Non-Routine SMS Reports
  - The SMP will designate threshold triggers that, if observed, will require the permittee to provide verbal notice to the Department.
  - If the existence of a threshold trigger is confirmed by a competent technical representative (third party engineer), then Notify FDEP within 24 hours of such confirmation.
  - Threshold triggers shall consider instantaneous, cumulative, and joint observations for the overall monitoring program.
  - Non-routine reports followed by a written report within 7 days.

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF WATER RESOURCE MANAGEMENT  
PHOSPHATE MANAGEMENT FACILITY PERMIT

AMENDMENT TO THE FACT SHEET  
AT THE TIME OF PROPOSED PERMIT ISSUANCE

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Date: September 3, 2021

Permit Number: FL0036421; PA File Number: FL0036421-022-IW1S/RA

Permittee: Mosaic Fertilizer, LLC – New Wales Concentrates Plant

**I. Comments by the Permittee Requesting Changes to the Draft Permit, summarized as follows:**

The permittee requested numerous changes to the draft permit, all minor except one requesting the option to split the Phase III East expansion area into North and South areas. The permittee submitted design drawings for this proposed construction and operational change. The details of this change, as well as details on other changes, are outlined below in section IV.

**II. Comment by U.S. EPA Region IV Requesting Changes to the Draft Permit and Fact Sheet**

No comments, recommendations or objections were received from EPA-Region 4 on this draft permit within the 30 days review period allowed under the Memorandum of Agreement between the Department and the US Environmental Protection Agency-Region 4, dated November 9, 2007.

**III. Other Comments**

Public comments were received between May 17, 2021 and the close of a public meeting on the draft permit held on August 25, 2021. The public meeting was held at the RP Funding Center, in Lakeland, Polk County, from 4 pm to 7 pm. The Department has prepared a response (Attachment to Fact Sheet, FS-1) to address the comments and concerns that were received during the extended comment period culminating in the Public meeting. A review of all of the public comments indicates that the draft permit contains provisions that appropriately addressed the comments in accordance with applicable Department rules for protection of water quality and the environment. Accordingly, no additional changes to the draft permit itself were made based on the comments received and applicable Department rules. To ensure that the concerns specific to this permitting action, which were raised during the comment period submittals and in the public meeting submittals, were fully and adequately addressed within the provisions of the proposed permit, the Department grouped the comments into key topic areas (see Attachment to Fact Sheet, FS-1). Each key topic area addresses similar comments, all of which the Department believes are fully and properly addressed in the draft permit in accordance with applicable Department rules and applicable environmental protection requirements.

**IV. Department Changes Since Draft Permit**

1. Introductory pages: Various minor changes were made to the facility description and introductory pages of the permit, most of these formatting changes. Additionally, as requested by the permittee, the option for the permittee to operate mechanical evaporators was removed, since the permittee no longer expects to operate these evaporators.
2. Section III – Ground Water Requirements:
  - a. Upper Floridan monitoring well NWC-44-F1 (MWC-61) was relisted from a compliance well to a background well, namely MWB-61, since it is located upgradient relative to the south gypstack expansion area and the regional flow of groundwater in the Upper Floridan Aquifer.
  - b. Monitoring well NWC-33-F2, which is open through the upper and lower portions of the Upper Floridan Aquifer, has been added to the list of wells to be monitored weekly through 12/31/2022 (then quarterly thereafter as with most well on-site).

- c. For clarity, replacement monitor wells for MWI-17, MWI-18, MWC-19, MWI-20, MWI-21 and MWC-22 were renamed MWI-17R, MWI-18R, MWC-19R, MWI-20R, MWI-21R and MWC-22R respectively instead of MWI-48, MWI-49, MWC-52, MWI-50, MWI-51 and MWC-52 (Groundwater Requirements-Table 6 and Section III.27, page 37 of 67.)
3. Section V – Operation and Maintenance Requirements:
  - a. Based on collected data, the requirement to monitor pH daily for receipt of treated or untreated water from Mosaic's Plant City, Green Bay, and Nichols facilities has been reduced to weekly. This is outlined in Specific Conditions V.A.7 and 8.
  - b. Specific Condition V.B.2 was updated to reflect the permittee's request for the option to subdivide the Phase III East area into north and south sections, if needed.
4. Section VI – Schedules: Specific Condition VI.16 was adjusted to require the permittee to independently submit completion documentation for each section of Phase III East (see Item IV.3, above), if they choose to construct and operate the Phase III East area in sections.
5. Attachments:
  - a. Attachment G from the Draft Permit was removed because it showed the area for mechanical evaporators, which are no longer expected to operate at the facility (see Item IV.1, above).
  - b. The replaced Attachment G shows the new option for North South subdivision of Phase III East.
  - c. Attachment N was updated to include tomographic imaging (i.e., mapping) of the subsurface of the facility, using the passive seismic monitoring system.

## Attachment to Fact Sheet: FS-1

### REVIEW OF PUBLIC COMMENTS

The Department provides information in response to public comments received between May 17, 2021 through the close of the public meeting on August 25, 2021. The responses to comments, below, have grouped similar comments received during the extended public comment period into key topic areas, followed by several specific comments, each of which is followed by a succinct but comprehensive response to address the corresponding public comments. Note: in the responses that follow, the terms phosphogypsum stack, gypsum stack, gypstack, and stack are used interchangeably.

#### **Summary of General and Specific Comments, Recommendations, and Concerns:**

- 1. Taxpayers will be stuck with the bill if there is an environmental disaster, such as a new sinkhole, and Mosaic files for bankruptcy or leaves the facility.**

##### Department's response:

Mosaic demonstrated that it meets the financial assurance requirements that are specified in accordance with Rule 62-673.640, Fla. Admin. Code. This rule requires that the company provide proof of financial assurance demonstrating that they possess the financial resources necessary to complete closure of a phosphogypsum stack system in accordance with Chapter 62-673, F.A.C. The draft permit includes an additional requirement that the permittee provide financial assurance for the combined cost of implementation of the Contingency Plan required by Rule 62-672.850, Fla. Admin. Code, and the cost of closure of the expanded system using one or more of the approved financial assurance mechanisms in Rule 62-673.640(4), Fla. Admin. Code. The applicant demonstrated financial assurance based both on a combination of cash deposits in a dedicated financial account that is protected so the funds may only be used for closure related needs, surety bonds, Letters of Credit, and based on meeting stringent test criteria to evaluate the financial strength of a corporate guarantee. Mosaic demonstrated the ability to meet its phosphogypsum closure and related financial obligations.

- 2. Trust fund is inadequate and underfunded if there is a new disaster. Also, concern that Piney Point depleted most of the Trust Fund.**

##### Department's response:

The permittee provided proof of financial assurance for phosphogypsum stack system closure and related obligations in accordance with the requirements of Rule 62-673.640, Fla. Admin. Code. The permittee of each facility is responsible for providing financial assurance for the particular facility in question, separate from the financial obligations of other facilities and permittees.

- 3. Bond or trust fund should be increased to ensure there are adequate funds to cover a disaster, should one occur.**

##### Department's response:

See Department's response to comments 1 and 2 above.

- 4. The site has had two sinkholes (1994 and 2016) and two anomalies (2004 and 2013) and is unsuitable for any further stacking.**

##### Department's response:

In light of the Department's knowledge of regional geology, and the specific site history including two sinkholes and two anomalies that have occurred historically at the facility, the Department required the permittee to perform an exhaustive hydrogeological and geotechnical investigation of subsurface conditions at the site, using both traditional and innovative technologies, to identify any existing geologic features that need to be improved to ensure that the entirety of the any allowed expansion area is suitable for the proposed

facility. Four locations were identified during the extensive site hydrogeologic investigations that require ground improvements. The permit specified design performance criteria for the satisfactory completion of the ground improvement stabilization work. In order to assure compliance with the permit conditions, Mosaic will be required to demonstrate the success of the remedial measures in achieving the required design performance criteria following completion of the ground improvement work at each of the sites, prior to the placement of gypsum for stacking. In addition, Chapters 62-672 and 62-673, Fla. Admin. Code, provide stringent construction, operation, and maintenance requirements to ensure the safety of phosphogypsum stacking operations, and protection of both ground water and surface water resources.

**5. The concrete/grout used to repair the 2016 sinkhole will fail.**

Department's response:

The specific mix design that was used for high pressure grouting is intended to permanently seal and repair the breach that formed in the confining unit at the site, and which eventually worked upward and impacted the liner and base of the overlying stack system resulting in the formation of the 2016 sinkhole in the south stack at New Wales. In addition to the design of the grout mix and subsequent performance testing of its installation, the Department's Consent Order and the subsequent approval of the remedial work also requires annual reporting of ongoing performance evaluations for the repair. The additional monitoring provides assurance the activity complies with permit conditions and that if there were to be any subsequent development of a new opening through soils surrounding the repair area, the changed condition will be identified and repaired before it impacts the integrity of the overlying stack system.

**6. Toxins can be spread (via air, groundwater, and surface water) from gypstacks.**

Department's response:

The Department requires a phosphogypsum stack system to be constructed to meet the general criteria for setback distances specified in Rule 62-673.340, Fla. Admin. Code. Air emissions and discharges to ground and surface waters of the state to be monitored and maintain compliance with applicable rules, statutes, and applicable environmental and public health protection standards. Department permits are only issued when the permittee has provided reasonable assurance that it will not cause pollution in violation of any of the applicable environmental and public health protection provisions of Chapter 403, Fla. Stat., or the rules promulgated thereunder.

**7. Radiological contaminants can be spread (via air, groundwater, and surface water) from gypstacks.**

Department's response:

See Department's response to comment 6 above. In addition, the permit's water resource protection conditions for both ground water and surface water include protections from potential water quality impacts from radiological constituents associated with the natural geochemistry of mined soils in Florida, and any technological enhancement of the naturally occurring radioactive materials. Surface water and ground water monitoring plan include both combined radium 226 and radium 228, and gross alpha practical activity as an effective screening method for the presence of a variety of naturally occurring radionuclides. Furthermore, phosphogypsum is required to be placed in phosphogypsum stack systems in accordance with applicable federal regulations at Title 40, Part 61, Subpart R, which protects the public and the environment from potential radon gas emissions from the naturally occurring radioactive materials found in phosphogypsum.

**8. Can evaporated water from stacks pick up harmful chemicals and then distribute them in rain?**

Department's response:

See Department's responses to related comments herein on applicable regulatory requirements. Furthermore, emissions from gypstacks and cooling ponds are separately regulated under Title 40, Part 63, Subpart AA of the Code of Federal Regulations.



**9. Comment comparing the Piney Point lined compartment leak and emergency discharge to potential dangers of gypstacks.**

Department's response:

This permitting action and the application review is specific to the proposed Mosaic New Wales expansion at an active phosphate manufacturing facility and is not related to the Piney Point. Please see the Department's response to related comments herein regarding regulatory requirements that are currently applicable to the Mosaic New Wales facility, including financial assurance requirements that were strengthened in 2005 following the bankruptcy of the Mulberry Corporation. Chapter 62-672, Fla. Admin. Code, provides strict requirements for the construction, operation, maintenance, and inspections of phosphogypsum stack systems such as the New Wales facility and any proposed expansion. Chapter 62-672, Fla. Admin. Code, also anticipates that inspections may periodically reveal critical conditions that require immediate analysis and rapid remediation, or other potential trouble areas that require follow-up inspections and repairs as may be warranted. All dams, not just those used in the phosphate industry, are susceptible to such conditions - this is one of the primary reasons the rule has stringent and prescriptive inspection and maintenance requirements, as well as requirements for properly following-up and addressing conditions as needed to ensure the safety of these facilities.

**10. Comment that the expansion of the facility may contaminate our drinking water aquifer.**

Department's response:

See Department's response to comments 1 through 8 above, particularly the protections for ground water quality under the Department's regulations and the specific permit conditions for phosphogypsum stack systems.

**11. The Public Meeting should have been open to virtual participation for people concerned with COVID-19.**

Department's response:

The Department adopted the open house format as an effective way to provide information and discussion with the public on the Department's regulatory requirements, and to receive public comments on a draft permit either in writing or using audio recordings. The Department's announcement for the public meeting provided information on the open house format, and provided an extended period for receiving public comments through the end of the public meeting at 7 pm on August 25, 2021. Members of the public who could not attend were able to provide public comments remotely via electronic mail as provided in the public meeting announcement through that same time frame. In addition, the public meeting announcement provided a link to online files including a meeting packet that provided the meeting agenda and over 40 easy to use links providing draft permit and application related information that is available remotely and online from the Department's electronic file system.

**12. There are more environmentally conscious fertilizers and ways of producing fertilizers.**

Department's response:

The Department's regulatory authority for the proposed phosphogypsum stack expansion does not address the specific types or methods of producing fertilizer products. The applicable regulations are intended to

provide for the critical safety standards for phosphogypsum stack systems and for the protection of water resources in a manner that ensures compliance with applicable environmental protection rules and statutes.

**13. If gypstacks are not properly managed, especially in advance of hurricanes, spills can occur and cause or exacerbate red tide.**

Department's response:

The permit's proposed water management plan ensures that the phosphogypsum stack systems plan provides safe process water storage capacities, even in the event of a five-year chronic period with extreme rainfall conditions. Rule 62-672.780, Fla. Admin. Code specifies strict process water management requirements for facilities that operate phosphogypsum stack systems. The requirements require stack system operation plans with specific escalating actions that are required for safe water management based on potential reductions in available storage capacities to prevent the potential for unauthorized discharges from the stack system. Chapter 62-672, Fl. Admin. Code requires Mosaic to submit periodic status updates on their available storage capacity, reporting routinely (monthly, weekly, or daily as needed), especially during the Hurricane season between June through November each year.

**14. Are there increased cancer rates and rates of medical conditions near gypstacks?**

Department's response:

The Department's regulations and the draft permit implements effective water quality protections and standards for both ground water and surface water resources that are protective of public health. Please see the Department's response to related comments above regarding applicable regulatory requirements. Anyone wishing to learn more about epidemiological information and diseases surveillance in Florida are encouraged to visit the Florida Department of Health's website at <http://www.floridahealth.gov/diseases-and-conditions/index.html>.

**15. There should be independent evaluations of all stacks currently in place, to ensure that all necessary maintenance and safeguards are in place and being conducted. In turn, the phosphate industry should be monitored holistically throughout Florida, not on a permit-by-permit basis.**

Department's response:

The Department requires inspection by qualified independent third-party engineers for all active phosphogypsum stack systems. In addition, all stack systems are regularly inspected by Department staff to ensure that the systems are being operated and maintained in compliance with the permit conditions and specific safety and environmental protections that are required for under Chapters 62-672 and 62-673, Fla. Admin. Code. Furthermore, the Department's regulations on groundwater and surface water quality and monitoring, including the numeric nutrient criteria requirements, are to protect the environment and public health. In addition, please see the Department's response to related comments herein regarding applicable regulatory requirements.

**16. Concern about petroleum-based materials in phosphate rock beneficiation, the product of which is then used by chemical plants such as New Wales.**

Department's response:

The processes used for the beneficiation of phosphate rock include the use of mechanical washing and screening steps and subsequent addition of organic flotation agents including fuel hydrocarbons and fatty acids that are used to separate the phosphatic ore from other matrix materials (generally sands and clays). To produce phosphoric acid using the wet process at facilities such as New Wales, the resulting beneficiated phosphate ore is subsequently reacted with sulfuric acid to produce a mixture primarily of calcium sulfate (i.e., byproduct phosphogypsum) and product phosphoric acid. Research supported by the Department and the applicable regulatory water quality monitoring programs have not identified any petroleum contamination

or other organic chemical contamination concerns from the wet process for phosphoric acid production, or the use or disposal of sands and clays produced from the precursor phosphate beneficiation facilities.

**17. The Notice of Application mischaracterized the application as an NPDES Permit Application, not an application for construction of a gypstack expansion.**

Department's response:

The permittee was required to publish a Notice of Application that complied with the requirements of Chapters 62-620 and 62-673, Fla. Admin. Code. Additionally, the proposed gypstack expansion requires a substantial revision of the facility's NPDES wastewater permit, which is why the notice of application was published accordingly. The notice also described that the application was for an expansion of the currently permitted active phosphogypsum stack system at the facility.

**18. Concern that additional stabilization work is scheduled in the draft permit, instead of being completed and approved prior to issuance of the draft permit.**

Department's response:

The applicant was required to complete a hydrogeological investigation in accordance with Rule 62-701.410, Fla. Admin. Code, that the Department used to fully evaluate the proposed expansion area including the use of modern geophysical techniques to guide and inform site-specific borings and identify any areas where stabilization work would be required to complete necessary ground improvements. The ground improvements must be successfully completed to meet the design performance criteria that are incorporated in the draft permit. The results will be reviewed by the Department prior to any allowed expansion of the stack system into an area that required ground improvements in order to ensure compliance with the permitted conditions. The application including the additional information provided in response to Department questions affirmatively provided the Department with reasonable assurance based on plans, test results, installation of pollution control equipment, or other information, that the proposed expansion of the installation will not cause pollution in violation of any of the provisions of Chapter 403, Fla. Stat., and the rules promulgated thereunder.

**19. Sea level rise can cause gypstack contaminants to enter Floridan Aquifer.**

Department's response:

The draft permit implements stringent state and federal requirements for the protection of water resources including protection of the Floridan Aquifer and overlying surficial and intermediate aquifer systems. Sea level rise is not expected to cause transport of phosphogypsum constituents into the Floridan Aquifer system. See Department's response to related comments herein regarding applicable regulatory requirements.

**20. The expansion stack will require more use of freshwater, which will compete with the development of homes and businesses that need water.**

Department's response:

The use or consumption of water by the manufacturing facility and its related ancillary activities is governed primarily by the operating capacity of the fertilizer manufacturing facility and is authorized by the applicable water management district. The proposed phosphogypsum stack expansion does not have any direct impact on the rate of the facility's water consumption. However, the current practice under the state's existing regulatory framework of reusing process water from the stack system and returning process water for use in the facility's manufacturing operations does reduce the use of freshwater.

**21. Gypstacks, phosphate mines, and phosphate industry practices harm wildlife or prevent them from living where these activities are occurring.**

Department's response:

The draft permit and application are for an expansion of the existing phosphogypsum stack system at the New Wales Concentrates Plant in Polk County in an area with a designated industrial land use. The draft permit does not regulate activities at a phosphate mine. The wastewater permit requires that the facility be operated in a manner that protects both ground water and surface water resources for the protection of uses for fish consumption, recreation, propagation and maintenance of a healthy, well-balanced population of fish and wildlife. Please also see the Department's response to related comments herein regarding applicable regulatory requirements.

**22. There should be sentry recovery wells installed to be ready to recover groundwater should a sinkhole or similar anomaly occur.**

Department's response:

Please see response to comment 4 above on the extensive work done to affirmatively address the site history and geology related to potential sinkhole concerns. In addition, the permittee has demonstrated that the existing recovery well system at the facility would effectively contain any potential impacted groundwater within its zone of capture in the underlying Floridan aquifer system, should a release occur from a similar anomaly or sinkhole in the proposed expansion area.

**23. The Permit should contain an explicit response and containment plan, to be reviewed and approved by engineers and hydrogeologists, representatives of DOH, FWC, and the public.**

Department's response:

The permit requires the permittee to maintain and annually update a contingency plan in accordance with Rule 62-673.850, Fla. Admin. Code. In addition, the draft permit would also require the permittee to provide financial assurance for the combined cost of implementation of the Contingency Plan that is required in accordance with Rule 62-672.850, Fla. Admin. Code, and the cost of closure of the expanded system using one or more of the approved financial assurance mechanisms in Rule 62-673.640(4), Fla. Admin. Code. As discussed above, the site's existing recovery well system has already been demonstrated to provide an effective capture zone for containment if there were to be an unexpected release from the proposed expansion area into the Floridan aquifer system.

**24. Experts who are responsible for evaluating the sophisticated monitoring system should have their expertise/training documented.**

Department's response:

The applicant has contracted a third-party professional service for operating and monitoring the early warning passive seismic monitoring system. As a result, the system is currently being monitored and evaluated by independent experts in the geophysical specialty of microseismic monitoring to determine and document information on the timing, location, or energy of any passive (i.e., natural or induced) subsurface seismic events. Additional experts in turn have their own independent licenses to carry out such work (Professional Geologists and Professional Engineers). The results will also be evaluated by experienced Department staff and the State Geologist.

**25. Is the New Wales facility going to process the phosphate rock mined from Desoto County, if approved?**

Department's response:

The Mosaic New Wales NPDES Wastewater permit does not limit or have the authority to regulate the source of raw materials like phosphate rock that may be used during the facility's manufacturing process.

**26. Concerns about HDPE liners and their integrity.**

Department's response:

The High-Density Polyethylene (HDPE) liner installation for the proposed expansion area is one that will not be exposed during the reasonably expected operational lifetime, and subsequent closure and long-term care period for the proposed expansion area. The lifetime of such HDPE liners that are unexposed, such as those used at the base of gypstacks, are expected to last hundreds of years, far exceeding the time expected for operation, closure, and long-term care of gypstacks. Given the importance of the liner systems at these facilities, the applicable rules require that even a suspected tear or damage in a liner system be reported as a critical condition to the Department which requires immediate investigation and appropriate follow-up maintenance actions. These requirements are part of the Department's stringent phosphogypsum stack inspection and maintenance requirements and are intended to ensure that any potential liner concerns are promptly reported to the Department, investigated, and repaired as needed to prevent leaks or releases outside of the phosphogypsum stack system.

**27. Concerns about the self-reporting of permit required monitoring data by Mosaic.**

Department's Response:

Self-reporting is an aspect of every NPDES permit, and not limited to Mosaic or the phosphate industry. To ensure that the reported data is reliable, the laboratories (usually independent) that perform the analysis must be certified by the National Environmental Laboratory Accreditation Program (NELAP). The Department performs Compliance Evaluation Inspections (CEI) which entail a rigorous records review of the process specified in Department Standard Operating Procedures (SOPs), to ensure that the facility has complied with the SOPs necessary to ensure validity of the reported results. Department inspectors examine records for random parameters and sample locations, checking the chain of custody forms, holding times, calibration of instrumentation, reagents used in calibration, etc., from the time of sample collection to the point of entry on the associated Discharge Monitoring Reports (DMR). In addition, the Department periodically performs sampling inspections for Department conducted field measurements, and to have samples from discharge locations analyzed by the Department's laboratory services, to ensure that results reported by the facility are consistent with results obtained by Department sampling efforts. Department inspectors also perform periodic (typically annual) dam compliance inspections (DCIs) to inspect dikes and process water impoundments, and to ensure that the facilities follow up on any needed maintenance.

**28. Opinion and comments that the applicant has not provided reasonable assurances in accordance with provisions cited from Rules 62-4.030 and 62-4.070, F.A.C., including assertions that the imposition of permit conditions have not prevented the past history of sinkhole related activity at the New Wales facility nor can it address the concerns for paleo sinkhole or historical collapse features that were identified during the applicant's site investigation for the proposed expansion area, and that the Department cannot rely upon the applicant's monitoring and reporting given the commenter's view of the applicant's prior instances of reporting delays for prior environmental monitoring.**

Department's response:

As required by Rule 62-4.030, Fla. Admin Code, the Department may issue a permit where it has received reasonable assurance that the installation will not cause pollution in violation of any of the provisions of Chapter 403, F.S., or the rules promulgated thereunder. In this case, the application affirmatively provided the Department with reasonable assurance based on plans, test results, installation of pollution control equipment, or other information, that the proposed expansion of the installation will not discharge, emit, or cause pollution in contravention of Department standards or rules. Additional conditions that were included in the Department's draft permit to ensure compliance with the performance requirements of the ground improvement activities in the draft permit

The applicant began additional geophysical and associated geotechnical site investigations of the proposed Phase III expansion area during 2018. Additional hydrogeological site investigations were necessary to supplement earlier site investigations and to further characterize the nature of the subsurface geology and hydrogeology for the applicant's proposed expansion area, including additional evaluations on the potential

for sinkhole formation. Based on the known regional conditions and geologic history of the site, additional geophysical, hydrogeological and investigations geotechnical investigations are specifically required of the applicant for permit applications for lateral expansions of a phosphogypsum stack system in accordance with Rules 62-673.320, and 62-701.410, Fla. Admin. Code. The rules require the applicant to complete a hydrogeological investigation in accordance with Rule 62-701.410, Fla. Admin. Code, that includes where necessary, "an evaluation of any engineering measures needed to provide reasonable assurance that the subsurface of the site in those areas will be adequate to support the disposal facility without adversely affecting the performance of the liner or leachate collection system." The application includes a hydrogeological investigation of the entire proposed Phase III expansion area. Additionally, in all cases where ground improvements are required, the applicant completed the required hydrogeological investigation including the evaluation of engineering measures that are needed for the subsurface of the proposed expansion area. Those evaluations appropriately characterized the areas requiring ground improvements, the nature of the ground improvement work that would need to be completed, and the performance requirements for the completion of necessary ground improvements.

In addition to the comprehensive hydrogeological investigation that was required in accordance with the requirements of Rules 62-673.320, and 62-701.410, Fla. Admin. Code, the application included additional innovative applications of technology that were incorporated as permit conditions to address the potential that future subsurface conditions could conceivably change and threaten the integrity of the proposed stack system expansion after its initial construction. As a result, the draft permit incorporated specific requirements for these new and enhanced design and monitoring methods, including:

- Foundation (under liner) Drainage System
- Foundation Vibrating Wire Piezometer Grid Monitoring System
- Passive seismic Subsurface Monitoring System
- Periodic Tomographic Mapping

The above new and enhanced design and monitoring features are in addition to the existing ground water monitoring well system that monitors each of the underlying aquifer systems to ensure compliance with permit requirements, including the hydrologic monitoring of potentiometric gradients separating aquifer systems, and the related gypstack operational information to monitor the environmental and physical integrity of the phosphogypsum stack system. These additional design and monitoring systems complement the plans, test results, installation of pollution control equipment (e.g., liners, drains, etc.), and related project information that the applicant has affirmatively presented to provide reasonable assurances that, considering the cumulative site investigations and evaluation of engineering measures as specified by the applicant, the proposed expansion will not cause pollution in violation of any of the provisions of Chapter 403, F.S., or the rules and water resource protection requirements promulgated thereunder.